

AMERICAN MEDICAL TIMES

Being a Weekly Series of the New York Journal of Medicine.

No. XVII. } Vol. VII. } NEW SERIES. NEW YORK: SATURDAY, OCTOBER 24, 1863. { Mail Subscribers, \$3 per Ann
City and Canadian, 3 50 "
Single Numbers, 10 cents.

Page	Page	Page	Page
ORIGINAL LECTURE.	REPORTS OF SOCIETIES.	THIS WEEK:	CORRESPONDENCE.
Lectures on the Morbid Condi- tions of the Blood. By Aus- tin Flint, M.D. Lecture I. . . 189	N. Y. PATHOLOGICAL SOCIETY: Stated Meeting, May 18, 1863. Dr. D. S. Conant, Pres- ident, in the Chair. Lipoma. Necrosis of Lower Jaw. Tu- mor from Cicatrix. Disease of Colon—Apoplexy. Gun- shot Wound of Neck. Fibro- recurrent Tumor. Intra- uterine Tumor. 194	The System of Operating in the Army of the Potomac . . 197 The Small-Pox Epidemic in London 197 The Annual Session of the Med- ical Colleges 197	Importance of Preliminary Exa- minations in Medical Schools. 199 What is his Dinner Hour? . . 199
ORIGINAL COMMUNICA- TIONS.	EDITORIAL ARTICLES.	REVIEWS.	ARMY MEDICAL INTELLI- GENCE.
Upon Gunshot Wounds of the Knee-Joint. By John A. Lil- dell, Surg. U.S.V. 192 Dislocation of Clavicle, directly upwards, at acromial end—un- reduced at the end of one year —use of arm perfect. By F. H. Hamilton, Jr., A.A.S., U.S.A. 193	Efficiency of the Army Surgeon. 196	Relations of the War to Medical Science. The Annual Address delivered before the Westches- ter Co. (N. Y.) Medical Society. By J. Foster Jenkins, M.D., President of the Society. . . 197	Transfer of Men to the Invalid Corps. 200 Orders, Changes, etc. 200 METEOROLOGY AND NECROLOGY OF THE WEEK IN THE CITY AND COUNTY OF NEW YORK. SPECIAL NOTICES.

A LIST OF

THE NEW ENGLISH, FRENCH, AND AMERICAN WORKS, ON MEDICINE AND ALLIED SCIENCES.

The prices are given in *sterling* and *francs*, and the rates at which the books can be supplied or imported, if not in stock, will be given on application.

BARTHOLOW.—A Manual of Instruction for enlisting and discharging soldiers, with special reference to the medical examination of Recruits, and the detection of disqualifying and feigned diseases. 12mo. Phil. \$1.25.

BERAUD.—Atlas complet d'Anatomie chirurgicale topographique. Pt. 2. fasc. 1. Plain, fr. 5, col'd, fr. 10.

BOST & PERRIER.—Guide complet du Recrutement. 8vo., fr. 5.

BRAITHWAITE.—Retrospect of Medicine. Vol. 47, Jan. to June 1863. 8vo., New York. \$1.25.

BRIAND ET CHAUDE.—Manuel complet de Medecine legale, ou resume des meilleurs ouvrages publies jusqu'a ce jour sur cette matiere, et des jugements et arrets les plus recents. 7th edit. Illustrated. fr. 12.

BULLETINS de la Societe d'Anthropologie de Paris. Vol. 4. fr. 7.

CAVASSE.—Annuaire generale des Sciences Medicales. 4e Annee. 12mo. fr. 5.50.

COMPTES RENDUS des seances et memoires de la Societe de Biologie. 3e serie, vol. 4. 8vo. fr. 7.

CRUVEILHIER.—Traite d'Anatomie descriptive. 4e edit. vol. 1. fr. 15.

DAVY.—Physiological Researches. 8vo. 15s.

DELIOUX DE SAVIGNAC.—Traite de la Dysenterie. 8vo. fr. 8.

DESPRET.—De la Hernie crurale. These. 8vo.

DIDAY.—Histoire naturelle de la Syphilis. 8vo. fr. 4.50.

DUCHENNE (de Boulogne).—Mecanisme de la Physiologie humaine, ou Analyse electro-physiologique de l'expression des passions.

ESSAI d'une bibliographie universelle de la Medecine, de la Chirurgie, et de la Pharmacie militaires. 8vo. fr. 8.

FOLLIN.—Lecons sur l'exploration de l'œil, et en particulier sur l'application de l'Ophthalmoscope au diagnostic des maladies des yeux. 8vo. Illustrated. fr. 7.

FOLLIN.—Traite elementaire de Pathologie externe. Vol. 2, pt. 1. 8vo. fr. 8.

FORMULAIRE pharmaceutique a l'usage des hopitaux militaires fran-
cais. 8vo. fr. 7.

FORT.—Traite elementaire de l'histologie. 8vo. fr. 5.50.

GIRAUD-TEULON.—Lecons sur le Strabisme et la diplopie, pathogenie et therapeutique. 8vo. Illustrated. fr. 4.

GOSSE.—Des taches au point de vue medico-legal. 8vo. Illustrated. fr. 3.

HAMMOND.—Hygiene with special reference to the military service. 8vo. Phil. \$5.

HEYFELDER.—Traite des Resections. 8vo.

JAMES.—Guide pratique du Medecin et du Malade aux eaux minerales francaises et etrangeres. 18mo. fr. 7.50.

JEANNEL.—De la Prostitution publique, et parallele complete de la prostitution Romaine et de la prostitution contemporaine. 2e edit. 8vo. fr. 6.

LIEBREICH.—Atlas d'Ophthalmoscopie, representant l'etat normal et les modifications pathologiques du fond de l'œil, visibles a l'Ophthalmoscope. 12 plates, containing 57 figures. 8vo. fr. 50.

MATTEI.—Clinique obstetricale, ou recueil d'observations et statistique. 4e livraison. 8vo. fr. 4.

NEW YORK ACADEMY OF MEDICINE.

Bulletin. Vol. I. 8vo. \$1.50.

Transactions. Vol. I. 8vo. \$2.50.

ORDRONAUX.—Manual of Instructions for Military Surgeons, on the examination of recruits, and discharge of soldiers. 12mo. New York \$1.50.

PAGET.—Lectures on Surgical Pathology. Revised and edited by W. Turner. 8vo. 21s.

RANKING & RADCLIFFE.—The Half-Yearly Abstract of the Medical Sciences. V. 37. Jan. to July, 1863. 6s.6d.

RECEUIL de memoires de Medecin, de Chirurgie, et de Pharmacie militaires. Publie par ordre du ministre de la guerre. Vol. 9. 8vo. fr. 4.50.

RENAUDIN.—Commentaires medico-administratifs sur le service des alienes. 8vo. fr. 5.

RICORD.—Lettres sur la Syphilis. 3e edit. 18mo. fr. 4.

ROTUREAU.—Des principales eaux minerales de l'Europe, Allemagne et Hongrie. 8vo. fr. 7.50.

La France. 8vo. fr. 10.

SALMON.—De la retroversion de l'Uterus pendant la grossesse. 8vo. fr. 8.

SARAZIN.—Appreciation de la valeur des resections oseuses dans les maladies chirurgicales et de leurs indications—These. 8vo.

SAUCEROITE.—L'Histoire et la Philosophie dans leurs rapports avec la Medecine. 18mo. fr. 4.50.

TRIQUET.—Lecons cliniques sur les Maladies de l'Oreille. Illustrated. 8vo. fr. 4.

WECKER.—Traite theorique et pratique des Maladies des Yeux. Vol. 1, pt. 2. fr. 3.50.

YGONIN.—Des obstacles qui le Col Uterin peut apporter a l'accouchement. 8vo. fr. 2.

BAILLIERE BROTHERS,

IMPORTERS AND PUBLISHERS OF SCIENTIFIC BOOKS,

440 Broadway, New York.

New York Medical College and

CHARITY HOSPITAL,

No. 90 East 15th St., near 4th Avenue.

The 14th Annual Course of Lectures will commence on the 19th of October, 1863, and will continue until the first week of March, 1864.

FACULTY.

BENJAMIN I. RAPHAEL, M.D., Professor of General and Military Surgery and Surgical Pathology.
A. JACOBI, M.D., Professor of Infantile Pathology and Therapeutics.
E. NOEGGERATH, M.D., Professor of Clinical Midwifery and the Diseases of Women.
J. V. C. SMITH, M.D., Professor of Anatomy.
WM. F. HOLCOMB, M.D., Professor of Ophthalmic and Aural Surgery.
SAMUEL R. PERCY, M.D., Professor of Materia Medica and Therapeutics.
HENRY G. COX, M.D., Professor of Theory and Practice and Clinical Medicine.
P. H. VAN DER WEYDE, M.D., Professor of Chemistry and Toxicology.
HON. JOHN H. ANTHON, A.M., Professor of Medical Jurisprudence.
STEPHEN ROGERS, M.D., Professor of Physiology.
JOSEPH SHNITZEL, Lecturer on Microscopic Anatomy.
JAMES E. STEELE, M.D., Demonstrator of Anatomy, and Curator of the Museum.
JOHN H. THOMPSON, M.D., Prosector to the Professor of Surgery.
F. S. SNEAD, Janitor.

A preliminary term will commence on September 14th, and continue until the regular term begins. The term will be **GRATIS** to those students who intend taking a full winter course, and will be as follows:—

On Military Surgery, by.....**PROF. RAPHAEL.**
On Congenital Malformations.....**PROF. JACOBI.**
On Bandaging.....**PROF. HOLCOMB.**
On Ovarian Dropsy.....**PROF. NOEGGERATH.**
On Auscultation and Percussion.....**PROF. COX.**
On Poisons and their Antidotes.....**PROF. VAN DER WEYDE.**
On the Examination of Recruits.....**PROF. ANTHON.**
Demonstrations with the Microscope.....**DR. SNETTER.**
Anatomy and Physiology of the Kidney.....**PROF. ROGERS.**

Material for dissection is abundant.

Daily Clinics are held at the College.

Further information as to Lectures, Terms, etc., may be obtained by addressing

PROF. B. I. RAPHAEL,
Dean of the Faculty,
No. 91 Ninth St., New York.

University of Buffalo. Medical De-

partment.—Session 1863-64. The Annual Course of Lectures in this Institution commences on the First Wednesday in November, and continues sixteen weeks. The dissecting-room will be opened on the First Wednesday in October.

Clinical Lectures at the Buffalo Hospital throughout the entire term by Professors MOORE and ROCHESTER.

CHARLES B. COVENTY, M.D., Emeritus Professor of Physiology and Medical Jurisprudence.

CHARLES A. LEE, M.D., Professor of Materia Medica and Hygiene.

JAMES P. WHITE, M.D., Professor of Obstetrics and Diseases of Women and Children.

GEORGE HADLEY, M.D., Professor of Chemistry and Pharmacy.

THOMAS F. ROCHESTER, M.D., Professor of the Principles and Practice of Medicine and Clinical Medicine.

EDWARD M. MOORE, M.D., Professor of the Principles and Practice of Surgery and Clinical and Military Surgery.

SANFORD EASTMAN, M.D., Professor of Anatomy.

WILLIAM H. MASON, M.D., Professor of Physiology and Microscopy.

SAMUEL W. WETMORE, M.D., Demonstrator of Anatomy.

The fees for the tickets of all the professors, inclusive of the hospital tickets, amount to \$70; matriculation fee (annually) \$5.

Students who have attended a full course of Lectures in this or any other institution, will be received on payment of \$50. The fee for those who have attended two courses elsewhere is \$25.

Graduation fee \$20. Demonstrator's fee \$5.

SANFORD EASTMAN, M.D., Dean of the Faculty.

BUFFALO, Sept., 1863.

Just Published.

A Treatise on Artificial Human Eyes,

made from a new material, on an improved principle. Discovered and introduced by T. J. Davis, 483 Broadway, Optician to the principal Military and Civil Hospitals in the United States. Practical artist; for many years practising in the principal Ophthalmic Institutions in Europe, together with some general remarks on their adaptability and employment.

The "Elixir of Calisaya Bark"—

was introduced to the notice of the Faculty in 1830, by J. Milhaud, the sole Inventor. None of those numerous firms were in existence, who, rather than give a new name to a new article, have found it more convenient within a few years to appropriate the above exclusively known title: it is therefore presumable that physicians in prescribing as for over thirty years, have reference solely to the original article made by J. MILHAUD & SONS.

Also, the CHALYBEATE ELIXIR OF CALISAYA BARK (copy-righted), being the above preparation with the addition of two grains of the celebrated Pyrophosphate of Iron to each wineglassful.

Sole agency for FRENCH ARTIFICIAL EYES from the leading Paris manufacturer. Single eyes to order. Sets of 120 for *Jeux* &c.

J. MILHAUD & SONS,
Druggists and Pharmacutists, 183 Broadway, N. Y., near Cortlandt st.

Either agents for or importers of all the French medicines and fine preparations in vogue.

College of Physicians and Surgeons.

MEDICAL DEPARTMENT OF COLUMBIA COLLEGE.

Corner of Twenty third Street and Fourth Ave., New York.

Session of 1863-4.

EDWARD DELAFIELD, M.D., President, and Professor Emeritus of Obstetrics.

ALEXANDER H. STEVENS, M.D., LL.D., Professor Emeritus of Clinical Surgery.

JOHN TORREY, M.D., LL.D., Professor Emeritus of Chemistry and Botany.

JOSEPH MATHER SMITH, M.D., Professor of Materia Medica and Clinical Medicine.

ROBERT WATTS, M.D., Professor of Anatomy.

WILLARD PARKER, M.D., Professor of the Principles and Practice of Surgery and Surgical Anatomy.

CHANDLER R. GILMAN, M.D., Professor of Obstetrics, the Diseases of Women and Children, and Medical Jurisprudence.

ALONZO CLARK, M.D., Professor of Pathology and Practical Medicine.

JOHN C. DALTON, JR., M.D., Professor of Physiology and Microscopic Anatomy.

SAMUEL ST. JOHN, M.D., Professor of Chemistry.

THOS. M. MARKOE, M.D., Adjunct Professor of Surgery.

WILLIAM DETMOLD, M.D., Professor of Military Surgery and Hygiene.

T. G. THOMAS, M.D., Adjunct Professor of Obstetrics.

HENRY B. SANDS, M.D., Demonstrator of Anatomy.

The Preliminary Term for the Session of 1863-4 will commence on MONDAY, SEPTEMBER 21st, and continue four weeks, until the opening of the Regular Term in October.

The Regular Term will commence on MONDAY, OCTOBER 19th, and continue until the second Thursday, of March following.

Fees for a Full Course of Lectures, \$105; Matriculation, \$5; Graduation, \$30.

J. C. DALTON, JR., M.D., Secretary of the Faculty.

Students of the College are admitted to all the Clinical Instruction given in the New York and Bellevue Hospitals on the same basis as heretofore. At the N. Y. Hospital, Drs. Smith, Parker, Markoe, and Sands, and at the Bellevue Hospital, Drs. Parker, Clark, and Thomas, are members of the attending staffs.

National Medical College.

MEDICAL DEPARTMENT OF COLUMBIAN COLLEGE.

FACULTY.

THOMAS MILLER, M.D., Emeritus Professor of Anatomy and Physiology, and President of the Faculty.

JOHN C. RILEY, M.D., Professor of Materia Medica and Therapeutics.

NATHAN SMITH LINCOLN, M.D., Professor of Surgery.

GEORGE C. SCHAEFFER, M.D., Professor of Chemistry.

JOHN B. KEASEY, M.D., Professor of Obstetrics and Diseases of Women and Children.

JOHN A. LIDELL, M.D., Professor of Anatomy and Physiology.

JOHN ORDONAU, M.D., Professor of Hygiene and Medical Jurisprudence.

*.....M.D., Professor of Theory and Practice of Medicine.

FREDERICK SCHAFFHIRT, M.D., Demonstrator of Anatomy.

The Forty-Second Annual Session will begin on Monday, the twenty sixth of October, 1863, and end on the first of March, 1864.

FEES.

The entire expense for a full course of Lectures by all the Professors is.....\$105 00

Single Tickets.....15 00

Practical Anatomy by the Demonstrator.....10 00

Matriculating Fee, payable only once.....5 00

Graduating Expense.....25 00

No charge for Clinical Lectures.

Payment of the fees is required in all cases, and tickets must be taken out at the commencement of the session.

* This Chair will be filled before the commencement of the Course. For further information apply to

JOHN C. RILEY, M.D., Dean,
No. 453 14th street, Washington.

DISEASES OF THE THROAT.

DR. ELSBERG,

LECTURER ON THE LARYNGOSCOPE AND DISEASES OF THE

LARYNX AND THROAT IN THE UNIVERSITY OF

NEW YORK,

Devotes himself specially to the Treatment of Diseases of

THE LARYNX

and Neighboring Organs.

OFFICE HOURS FROM 4 TO 6 P.M.

153 West 15th Street.

Original Lectures.

LECTURES ON
THE MORBID CONDITIONS OF THE BLOOD.DELIVERED AT
THE BELLEVUE HOSPITAL MEDICAL COLLEGE.

PRELIMINARY TERM, SESSION OF 1868-4.

By AUSTIN FLINT, M.D.,

PROF. OF THE PRINCIPLES AND PRACTICE OF MEDICINE.

LECTURE I.

General Remarks on the Importance of the Blood.—Classification of the Constituents of the Blood.—Morbid Conditions relating to the Organized Corpuscular Elements.—Plethora—Anæmia.

GENTLEMEN:—I have selected as the subject of the few lectures assigned to me during the preliminary term, the morbid conditions of the blood. I have selected this subject with reference, not so much to its attractiveness, as to its great importance. With our present pathological views, the question as to the existence of morbid conditions of the blood enters into the consideration of a very large proportion of diseases.

As expressive of the importance of the blood, it is distinguished as the *vital* fluid. In literature and common parlance, it represents life. "Life's blood" is a common expression. To have one's blood is to take life. Its importance is shown by the fact that its presence in all the so-called vital organs is indispensable to the exercise of their functions. A striking and familiar illustration of this fact is afforded by the temporary loss of the mental faculties and consciousness, as a result of a momentary arrest of the supply of blood to the brain, in syncope or fainting. The blood, in fact, may be said to be the grand condition of vitality. Its detention from a part occasions the molecular death of the part, i.e. gangrene or sphacelus. Its abstraction, beyond a certain limit, from the body, occasions general or somatic death. The suspension of its distribution by an arrest of the heart's action for two or three minutes only, is fatal. It forms a vital medium for all the organs essential to life, on which they are dependent, as the body or the blood itself is dependent on the surrounding atmosphere. The physiological relations of the blood to the solid parts being so intimate, it might reasonably be expected, *a priori*, that pathological changes in this fluid should give rise to corresponding morbid phenomena in the organs and tissues of the body. Observation shows this to be true. There are grounds for the belief that a large proportion of the morbid actions and changes which occur in the solid parts, are due to prior alterations in the blood. In many instances, as will be hereafter seen, the dependence of the former on the latter may be inferred, or rendered probable, although not demonstrable with our existing knowledge. Supplies for the growth and repair of all the body are contained in the blood. This fluid, therefore, represents, in its constituents, all the elements which enter into the composition of all the solid parts. It is taking but a step from the prosaic walks of scientific fact to the domain of fancy, to say that the blood is the solid body in a liquid state. "The blood is the centre round which the general metamorphosis of animal matter revolves, and in which it is perfected."* It might be rationally predicted that morbid alterations in its composition and distribution may lead to diseases seated in the solids, and this will be found to be the case. Another aspect foreshadowing the importance of the blood in its pathological relations, is its office as a reservoir for the accumulation of effete principles, the detritus of the tissues, which are to be eliminated by excretion. Here is a

source of disease, as will be presently seen. Again, the physiological activity or mobility of the blood is very great. In this respect it is in striking contrast to the solid parts. It is the seat of unceasing changes, and yet, in health, maintains a uniform state as regards its organization and composition. New matter, derived from ingesta, is daily added in considerable quantity, and a proportionate amount is derived from the decomposition of the tissues. Portions are appropriated by the different structures. Other portions are secreted for various useful purposes in the economy. Other portions are thrown off or excreted. There is a constant interchange of gaseous elements with the surrounding atmosphere by means of respiration and through the cutaneous surface. Thus, it is the seat of constant and great changes, denoting wonderful activity, and yet its constitution remains the same. In this fact are admirably exemplified the precision and adaptation of the laws presiding over the safety and welfare of the organism. But this activity necessarily renders it more liable to morbid actions and conditions than the solid parts, which in health are less active and more stable.

The blood is a complex fluid. It contains a large number of ingredients, preserving, however, certain fixed anatomical characters. Anatomically considered, it consists of certain corpuscular bodies, viz. the red globules, the white globules or leucocytes, and globulins, which are suspended in a liquid called the *liquor sanguinis*, blood-plasma, or intercellular fluid. These are resolvable, by analysis, into numerous elements, some of which are organic, i.e. peculiar to organic bodies, and others inorganic or mineral. Examples of the organic elements are, fibrin, albumen, hæmatine, etc. The inorganic elements embrace various saline ingredients, iron, water, and several gases. Further details belong to anatomy and physiology. It is necessary thus to glance at the composition of the blood, in order to arrange its morbid conditions. These conditions relate to the different constituents of the blood; and, with a view to the consideration of pathological changes, the latter may be distributed into three groups. The first group will embrace the corpuscular, distinguished also as the organized, constituents. The second group will consist of the organic elements. The third group will comprise the mineral substances. Morbid conditions, affecting, severally, these three groups, will be first considered in the foregoing order, and afterwards, morbid conditions due to the introduction into the blood of substances which do not enter into its normal composition. Even with our present imperfect knowledge of the blood in health and disease, it is, in itself, a large field of study, which, considered as a distinct province of medicine, is called *hamatology*.

Of the corpuscular or organized constituents of the blood, the most abundant and important are the *red globules*. The known morbid changes affecting these, relate, in the first place, to their number. They may be morbidly increased or diminished in number. An increase of the number of red globules beyond the healthy limit constitutes the morbid condition called *plethora*. A diminution below the limit of health constitutes the morbid condition called *anæmia*.

The relative proportion of the red globules to the other constituents of the blood may be increased by diminution of the latter. This obtains in a marked degree in epidemic cholera, owing to the draining away through the intestinal canal of the water of the blood, together with various elements held in solution by the transuded liquid. The density of the blood in this disease is notably increased; it becomes thick and heavy, and the circulation is mechanically impeded. Under these circumstances, the red globules are relatively in abnormal excess, although they are actually less in number than in health. The term *plethora* is only applicable to an actual increase of the number of the red globules. This is now the significance of the term, without regard to the quantity of the mass of blood. An increase of the mass, causing over-repletion of the vessels, does not constitute *plethora*, although implied in the ety-

* Lehmann.

mology of the term. This condition is called *polyemia*. Its existence to an extent sufficient to constitute a morbid condition of importance, is doubtful.

The functions of the red globules in health are not fully understood. Their relative normal ratio to the other constituents of the blood differs considerably in different animals, and they appear to sustain a certain relation to vigor, strength, and activity; that is, they are abundant in races, breeds, and individuals, in proportion as the general attributes of the body just named are marked. Their importance is shown by the fact that animals bled nearly to death may be reanimated by injecting into the veins red corpuscles suspended in serum, and not by the introduction of the other constituents of the blood without the red corpuscles. From what is known of their physiological relations, it might be inferred that the effects of their morbid excess would be over-activity of the circulation and undue excitement of organs in proportion to their normal activity and the quantity of blood which they receive in health. The phenomena of plethora denote these effects. The power of the heart's action is increased. The temperature of the body is raised. The brain is stimulated, giving rise to unusual mental energy and excitement. Sensibility and muscular irritability are augmented. In comparing, however, different persons, it is not easy to draw the line of demarcation between more or less intensity of the so-called sanguine temperament and plethora. A better idea of plethora, as a morbid condition, is formed by a comparison of the same person at different periods, and especially if the person have naturally a temperament not notably sanguine. He acquires more color in the proboscis and face. The mucous membranes are reddened. The pulse is full and strong. The heart's impulse is increased. The physical and mental powers are more active. The body is notably warm. Pain in the head is readily induced by stimulants or mental excitement, owing to the abnormal power of the circulation. This condition involves a liability to active cerebral congestion. It is supposed to constitute a predisposition to acute inflammations. It doubtless tends to render inflammations more intense, and to increase the symptomatic febrile movement. It may favor hemorrhages, especially into the brain, by means of the increased force of the circulation. On the other hand, an abundance of red globules exempts from nervous disorders, to which, as will presently be seen, a paucity of red globules predisposes.

The causes of plethora are, first, a constitutional tendency, which may be congenital and inherited; second, overfeeding, with the use of generous wines and condiments; third, diminished expenditure of blood constituents in nutrition, incident to ease, idleness, and luxurious habits, the digestive and assimilative functions remaining active; and fourth, the arrest of periodical or habitual hemorrhages, or some other drain to which the system had become accustomed. These several causes are frequently combined.

It is important for the physician to appreciate the condition of plethora, in order to avert the evils to which it tends, by appropriate management. And, as an incidental element in different diseases, it is to be taken into account in considering the effects of therapeutical measures. It is relieved, for the time, most promptly and efficiently by bloodletting. An immediate effect of the abstraction of blood is a notable reduction in quantity of the red globules. Of course, the propriety of resorting to bloodletting will depend on the degree of plethora and the apparent imminency of evil results. Other means to diminish the excess of red globules are, a reduced diet, as regards the quantity and quality of food, and exercise, in order to increase the expenditure of blood-elements in repairing muscular waste, and render the amount of eliminated matter more abundant. Certain medicines appear to exert a direct effect upon the number of red globules. Mercury is such a remedy, as shown by the pallor which accompanies salivation. Mercurialization, however, is never indicated for the attainment merely of this object.

It is important not to confound plethora with other morbid conditions of the blood or circulation. Fulness of the vessels, due to some impediment to the circulation, has not unfrequently been considered as plethora. This may exist where the red globules are diminished, rather than increased. A pseudo-plethora, for example, is not uncommon in pregnancy, the red globules being diminished in this state. Bleeding was formerly employed with reference to this pseudo-plethoric condition, of course with an injurious effect on the constitution of the blood. With pseudo-plethora, or fulness of the vessels, there is often evidence of deficient oxygenation of the blood, together with dulness and oppression instead of heightened activity of the functions of the brain and other organs. True plethora is to be determined by the symptomatic phenomena which have been mentioned, taken in connexion with the evidence afforded by the pulse and other symptoms of an unobstructed, free circulation, with the activity of the digestive and assimilative functions, and the existence of one or more of the conditions under which this morbid condition is known to be produced. A microscopical examination of the blood may suffice to determine the existence of the plethora, if the observer be sufficiently practised to decide whether the red globules in several successive specimens are in excess or not. It may be determined by quantitative analysis, but the process is too tedious and delicate for ordinary clinical purposes.

As regards the essential pathological nature of plethora, all that can be said is, it consists in a hypergenesis of the most important of the organized or corpuscular constituents of the blood, the red globules. The pathologist might expect to explain this morbid condition more fully, if the physiologist were able to tell us where and by what process the red globules are normally produced.

A morbid diminution of the red globules of the blood constitutes *anæmia*. The etymology denotes diminution of the mass of blood, but, conventionally, the term is used to signify reduction of the quantity of red globules. *Spanæmia* is sometimes used in the same sense.

The purest exemplification of *anæmia* is afforded by cases in which it has been produced by copious hemorrhages or repeated bloodlettings. It is not easy to effect, except for a transient period, a considerable reduction in the mass of blood. After a loss by hemorrhage or bloodletting, the quantity of liquid which has escaped is quickly replaced, but the red globules are not so speedily renewed, and, hence, the latter continue for a greater or less period to be deficient. This condition is one of the forms of so called impoverished or poor blood. The degree of impoverishment varies. The proportion of red globules has been observed to fall below the normal range (120 to 130 in 1000 parts) to 70, 60, and even 21 to 1000 parts.

Anæmia is of frequent occurrence. It is incident to a variety of diseases. It gives rise to a multiplicity of phenomena. It is a condition highly important for the physician to appreciate and recognise. The knowledge of this condition obtained within late years constitutes one of the most striking of the characteristics of modern medicine in view of its importance on medical practice. It occurs much more frequently than the opposite morbid condition, viz. plethora.

In general terms, the pathological effects of *anæmia* are the reverse of those due to plethora. The power of the circulation is diminished, and there is a deficiency of the functional energy of different organs, the more marked in proportion to the quantity of blood which they receive in health. The phenomena denote these effects. The animal temperature is lessened. *Anæmic* patients have coolness of the surface, and especially cold extremities. They are not so able to resist cold as the plethoric. The action of the heart is feeble; the pulse is small, weak, compressible. The action of the heart is easily disturbed, becoming rapid from slight causes, and

frequently irregular. The mental energy is diminished; persons are not adequate to the intellectual efforts of which they are capable in health. The strength of will and determination of purpose are impaired. The vital functions are languidly performed. The muscular strength is diminished. The surface is pallid from the deficiency of the hæmatine or coloring matter contained in the red globules. This pallor is apparent in the face, and especially the prolabia. The mucous membranes accessible to view have less redness than in health. The countenance at once denotes the existence of anæmia if the condition be marked.

It induces a multiplicity of morbid phenomena arising from disordered action of the nervous system. The relations of the blood to the functional activity of the nervous system are strikingly shown in the morbid phenomena pertaining to the latter, which spring directly from morbid conditions of the former. And the special relations between the red globules and the nervous system are shown by the phenomena incident to anæmia. These phenomena are numerous and diversified. The more frequent and prominent are as follows:—Mental depression, anxiety respecting health, hypochondriasis, irritable temper, want of buoyancy and energy, a feeling of lassitude and a painful sense of inertia or indolence. There is apt to be a feeling of incapacity for muscular exertion greater than the actual loss of muscular power. The physical and mental powers are especially depressed during the process of digestion. Palpitations frequently occur, so that organic disease of the heart may be suspected by those not conversant with physical means of diagnosis, and is greatly feared by the patient. Neuralgia in various situations is apt to occur, and in females hyperæsthesia of the abdominal walls simulating peritonitis. The varied symptoms which have been heretofore described as belonging to spinal irritation, are likely to occur in connexion with anæmia. It sustains a causative relation to nearly all the functional affections of the nervous system embraced under the head of the *neuroses*. A large proportion of persons affected with any one or more of this class of maladies are anæmic; and, conversely, a large proportion of anæmic persons become affected with neurotic disorders. It is highly important that this pathological element be taken into account in the management of the *neuroses*. When it occurs independently of the various affections with which it is connected incidentally, it is characterized especially by phenomena relating to the nervous system. These phenomena may be said to constitute the pathological expression of this morbid condition of the blood.

If it be asked, what is the explanation of the occurrence of these phenomena in consequence of a diminution of the red globules, the pathologist can only say that he may hope to answer the question when the physiologist is able to explain the normal relation between the presence of the red globules and the functions of the nervous system. Pathological facts show that an essential relation does exist between these two anatomical elements of the body. The nervous system depends on this blood-constituent for the manifestations of healthy life, and, hence, a deficiency occasions manifestations of disordered life, or morbid vital phenomena.

The causes of anæmia, when it exists independently of the various affections with which it is associated, are frequently obvious, but in some instances not assignable. It is a result of hæmorrhages, from wounds, flooding after labor, and in cases of menorrhagia, or injudicious blood-letting. It may proceed from deficient alimentation; the food being insufficient in quantity or not sufficiently rich in alimentary principles. It is caused by a loss of certain of the elements of the liquor sanguinis or blood plasma, which are necessary to the production of red globules. Thus, frequent causes are prolonged lactation and a rapid succession of pregnancies. The obvious causes may be arranged into the three classes just stated, viz. 1st, Causes which involve an actual loss of red globules, as in hæmor-

rhages; 2d, Causes involving a defective supply of materials for assimilation; and, 3d, Causes which occasion expenditure of the constituents of the liquor sanguinis on which the production of the red globules is dependent.

The causes are not always apparent. Anæmia is apt to occur in females at or near the age of puberty, where there has been no loss of blood, no deficiency in alimentary supplies, and no unusual expenditure of blood-plasma. Under these circumstances it constitutes the affection to which the name *chlorosis* was applied before the anæmic condition was fully understood. If this name be retained it should be considered as denoting anæmia occurring under the circumstances just stated. It appears to be in some way connected with the evolution of the reproductive functions. In some cases it may be accounted for by the derangement of the assimilative functions at this period. In these cases the appetite is poor, the digestion disturbed, and there is apt to be a craving for indigestible, innutritive substances, such as chalk, slate, coal, etc. Addison has described cases of anæmia occurring without any obvious causation, accompanied by general debility, which progressively increases, at length ending fatally without appreciable lesions of any of the vital organs. Cases of this kind are occasionally met with, especially in hospital practice. Addison distinguishes them as cases of "idiopathic fatal anæmia." In a certain proportion of these cases, the surface of the body, to a greater or less extent, assumes a dark discoloration or a bronzed appearance, and in several successive cases the supra-renal capsules were found to be more or less disorganized. Addison inferred from these facts a pathological connexion between disease of the supra-renal capsules and the bronzed hue of the skin. Clinical observation, however, shows that the two events are not uniformly associated.

In a large proportion of the cases in which anæmia exists, it is incidental to, or a pathological element of some other affection. And, as thus associated, it may, or may not, claim the special attention of the practitioner. Of the great number of diseases in connexion with which it is connected either constantly or frequently, the following list will inclose the more prominent.

1. Tuberculosis. Anæmia is generally early developed in tuberculous affections, and may precede the deposit of tubercle.
2. Carcinoma. The pale, waxy, or straw-colored complexion which characterizes some cases of carcinomatous disease, denotes anæmia.
3. The affections embraced under the name of Bright's disease. Associated with oedema of the face, the pallid complexion of anæmia becomes quite characteristic of these affections. The blood-changes which belong to these affections (to be hereafter considered) lead to diminution of the red globules.
4. A host of affections which involve expenditure of other constituents of the blood than the corpuscles, i.e. constituents of the *liquor sanguinis*, such as chronic dysentery and diarrhæa, chronic pleurisy, purulent formations in any part of the body, leucorrhœa, etc.
5. Affections which involve loss of corpuscles, or hæmorrhage, as menorrhagia, hæmorrhoids, hæmatæmesis, etc.
6. Affections compromising the assimilative functions by occasioning indigestion, vomiting, loss of appetite, etc.
7. Certain affections of the liver, and especially cirrhosis. It has been supposed that the red globules are produced within the liver. If this be true, diseases of this viscus may lead to their diminution by interfering with their production. But in cirrhosis this effect is due in a measure to the obstruction to the introduction of fresh alimentary supplies brought by the portal vein.
8. The periodical fevers, if protracted. The special cause of these fevers may induce anæmia even where the fevers are not developed. Persons inhabiting regions called miasmatic, are apt to become anæmic, although they do not experience fever.

Certain mineral substances introduced into the system

lessen the red globules in a notable degree. This is true of lead. Anemia is a pretty constant element of saturnine diseases, and it is observed in persons exposed to lead emanations before becoming affected with the characteristic diseases. The same is true of mercury. Mercurialization quickly reduces the quantity of red globules in a marked degree.

Original Communications.

UPON

GUNSHOT WOUNDS OF THE KNEEJOINT, WITH CASES.

By JOHN A. LIDELL, Surg. U.S.V.,

IN CHARGE OF STANTON HOSPITAL, WASHINGTON, D.C.

The surgical relations of gunshot injuries involving the knee-joint, are more important than those pertaining to any other articulation in the whole body, because of the greater size of the joint, and the superior danger which experience has shown to attend all derangements of its structure. Wounds of the osseous tissue belonging to this articulation, are much graver in character than wounds of the soft parts. It sometimes happens that a musket-shot hits the knee in such a way as to open the joint to greater or less extent, without breaking bone, and the patient gets well with a good limb. I have seen three cases of this kind, all of which terminated favorably. It happens more frequently, however, that a bullet impinges against the knee, in such a manner as to course along beneath the integument for a distance greater or less, in close relation to the synovial membrane, but without entering its cavity; and of such cases almost all make good recoveries, provided they are subjected to appropriate treatment. But if, on the other hand, the articulating end of either the femur or the tibia happens, at the same time, to be splintered by the bullet, the nature and character of the case are entirely changed. The patient will not make a good recovery. Sooner or later the joint will swell up, having become highly inflamed, great constitutional disturbance will also be developed, and the patient will ultimately lose his life if the limb is not removed by timely amputation.

But a bullet passing through the knee-joint does not always splinter the bone, or otherwise break it into fragments. It may cut a simple groove in the spongy epiphysis of the femur or the tibia, as the case may be, without doing any other mischief to the osseous structure. In this way a bullet may pass through that articulation, from before backwards, and the patient finally recover with a stiff joint. I have known one case of the sort.

The most dangerous cases, however, are those wherein the bullet enters the limb at a distance (greater or less) from the joint, and without opening the cavity of the synovial membrane, or perhaps without even coming into relation with it, shatters the bone in such a way that the fissures extend to the cartilage covering the articulating end of the bone, or even into the synovial cavity itself, if the splintering happens to be very great. The danger of these cases is much increased by their insidious character. The patient may do well for eight days or even two weeks after he is wounded, and then of a sudden be seized with great pain in the joint, followed speedily by heat, tenderness, and much swelling. At the same time he has constitutional disturbance in the shape of surgical fever and great restlessness. Now, if the traumatic origin of this arthritis happens to be overlooked, and if the case is put under treatment as if it had begun spontaneously, then the inflammation will extend rapidly from the joint to the thigh, and in a short time involve it so extensively, that, if the surgeon shall now wish to remove the limb by amputation, he cannot find healthy tissues through which to operate; and before long the thigh will be converted into

a vast abscess communicating with the joint. These are the so called cases of secondary inflammation of the knee-joint, and are certain to turn out badly if the limb is not amputated in season. As soon, therefore, as this form of traumatic arthritis develops itself, its exceedingly dangerous character should be recognised, and the limb cut off before the inflammation has had time to spread through the thigh in the form of diffuse cellulitis. In all such cases amputation must be performed early, if it is expected to save the patient.

With regard to the treatment of gunshot injuries, in general, of the knee-joint, I believe that in all cases of wounds of the soft parts alone, whether the synovial sac be opened or not, an effort should be made to save the limb, provided the loss of substance is not great. For this purpose the patient should lie still in bed, and have ice constantly applied to the seat of injury, quietude and ice being the most reliable agents for cure in such cases. If, however, the loss of substance be extensive, as in case of certain wounds inflicted by the explosion of shells, primary amputation should be performed. Again, if the bullet pass completely through the joint, cutting simply a groove on the articular surfaces, without comminution or splintering, I believe it to be our duty to try to save the limb; but if severe arthritis should supervene, it will then become our duty to amputate without delay. In all cases of wounds in the neighborhood of the knee-joint, associated with comminution and splintering of the articular end of either the femur or the tibia, amputation should be performed as soon as the diagnosis is made out. In some cases the diagnosis is readily made by exploring the wound with the finger; in other cases it will be difficult to make, and even uncertain, until the secondary arthritis has appeared, as happens when the shaft of the femur has been split by a conical bullet, the fissure extending to the knee-joint.

CASE I.—Private W. V., Co. D, 4th Pennsylvania Cavalry, aged 22 years, and of sound constitution, was admitted to Stanton Hospital June 24, 1863. He had received a gunshot wound in the neighborhood of the right knee June 20, four days previously. The bullet (carbine) entered the limb on its anterior inner face, a short distance below the joint, passed backwards and upwards, escaping through the popliteal space, apparently without opening the joint. From the course and direction of the wound we supposed the upper part of the tibia to be injured. At time of admission patient's condition was good. There was no pain, heat, tenderness, or swelling, in the injured knee. He was directed to refrain from using it, by remaining quietly in bed, to have ice applied to the wound constantly, so as to lessen the danger of inflammatory action therein, and to be supported by a nutritious diet. Under this treatment his case progressed without an untoward symptom, till July 5, eleven days after admission to hospital, and fifteen days after the infliction of the wound. At inspection on this day I specially noticed his condition as very promising, the anterior orifice of the wound being nearly healed. But about the middle of the following night he was seized with great pain and distress in the injured knee. The officer of the day was called to him, and administered morphia in full doses, but without producing much relief. July 6, morning.—He complains of intense gnawing pain in the right knee; it is much swelled, hot, and exceedingly tender; he cries out from agony occasioned by pain, although the pupils are markedly contracted, from the large quantity of the anodynes taken; countenance expressive of great distress; pulse frequent, quick, and irritable; skin hot and dry; has thirst, and a coated tongue; has had a slight chill. Ordered free abstraction of blood by cups from the neighborhood of the knee. Hydrarg. chlor. mit. grs. x., and anodynes, to make him comfortable, if possible.

July 7.—Morning: Patient's condition not materially changed from yesterday. Seeing that the arthritis was secondary to a gunshot wound, and believing that it was associated with fracture and comminution of the upper end

Admitted to Ward A, Armory Square Hospital. May 8th.—Patient's health has always been good; has little pain; is cheerful and has a good appetite. Treatment (Ex. Diet); wound covered with lint wet in a weak solution of chloride of zinc, and an anodyne at night. 10th—Applied bread poultice to remove slough. 11th—Added porter to other treatment $\frac{3}{4}$ j. every four hours. 13th—Wound becoming more painful; appetite good. Continue poultice with olive oil to raw surface. 15th—Complains this A.M. of inability to completely open the jaws; has some rigidity of the muscles of the neck, and a slight degree of opisthotonos; feels well otherwise; has no spasmodic action of the muscles; had morphia. 17th—Jaws nearly closed, can open them but little; neck stiff; has no pain or twitching of the muscles, nor difficulty of deglutition, or respiration; opisthotonos continues about the same, appetite good; wound looking well. Applied flannel wet with turpentine to neck, and covered with oiled silk; morphia gr. $\frac{1}{4}$ at eight, and gr. $\frac{1}{4}$ every four hours after; milk punch $\frac{3}{4}$ s. every four hours. 18—Feeling better, can open a little more; neck not quite so stiff (continue treatment). 19th—Patient complains of application being more heating and painful. Applied cotton batting wet with olive oil to the wound. 20th—Dressed wound with wet lint; patient has not felt so well; there is a good deal of involuntary action of the muscles of the back; can take only liquid food, owing to the closing of the jaws; no difficulty of breathing or swallowing; has had more pain than usual in the wound. Dressed the wound P.M. solution morphia grs. iv. Aquæ $\frac{3}{4}$ j., and covered with cloths wet with olive oil. 21st—Wound looks finely; slept well, can open mouth more; neck less stiff. Continue treatment; morphia gr. $\frac{1}{4}$ at eight, and gr. $\frac{1}{4}$ every hour; was worse towards noon; has a good deal of involuntary movement of the muscles, jerking of the head, etc. Pulse at four P.M. 130°; has not accelerated until to-day, pulse same at nine P.M.; has taken some beef tea; has diet of milk, with milk punch $\frac{3}{4}$ j. every two or three hours; ten A.M. applied ice along the spine in a hog's intestine, to be renewed every hour. The wound was dressed with morphia gr. v. in solution at eight A.M. and at ten o'clock P.M. S. quinia gr. v. every two hours. The beef tea to be crowded; milk punch $\frac{3}{4}$ j. every hour if his stomach bears it. At four P.M. he had pil. comp. cathart. No. 4. 22d—Patient better, pulse fallen to 100°, less spasm; can open jaws sufficiently to protrude the tongue, this is covered in the middle with a pale, white, slimy coat, pale red, and thinly coated at the edge. Dressed wound morphia gr. vi. every six hours, and covered as before; keep ice to spine; keep body warm; cont. morphia gr. $\frac{1}{4}$ every hour, beef tea ad lib. P.M.—Pulse 100°; bowels moved at three P.M.; symptoms continue favorable. 23d—Pulse at three A.M. 120°; patient more restless; drank a pint of beef tea during the night. Nine A.M.—Pulse 100°; is quiet; passes urine without difficulty. 31st—Has continued to improve slowly; treatment continued; spasmodic twitchings have disappeared; trismus not so bad, pulse 111°; morphia is now given gr. $\frac{1}{4}$ every two hours, and four grs. sprinkled over sore; ice to spine. June 1st—Pulse 90°; sleeps well; bowels open; trismus lessened; spasms almost ceased. 2d—Feels well; no spasms; can protrude his tongue well; the ice was stopped to-day.

The treatment from this to July 10, has been morphia gr. $\frac{1}{4}$, when required, at bedtime, pills of ferri et quinzæ citras, gr. iij. ter die; milk punch and tonic treatment generally. From inception of the tetanic symptoms, the patient has lain seven-eighths of the time with his face downwards, an attendant sitting by his side, and preventing the opisthotonos by supporting the head; this position he assumed from choice, on account of the wound.

He has had difficulty from the first in holding his urine, though it has never been retained so as to require the catheter; would often have to wait twenty minutes or more for the flow after he had the vessel in his hands.

This patient was for most of the time under the treatment of Dr. Andrews.

Received a furlough July 10th. Has been heard from since; doing well.

American Medical Times.

SATURDAY, OCTOBER 3, 1863.

INDEPENDENCE OF THE ARMY MEDICAL DEPARTMENT.

THE value of the services of our profession in maintaining the strength and efficiency of armies has been acknowledged by every nation. Even in the rudest age of Grecian civilization the skillful surgeon was accounted of more importance to the army than many heroes. Paré demonstrated that fact when, by his presence, he so inspired the garrison at Metz that they made a successful defence. Every civilized nation has made the medical staff an integral part of its military organization. They regard it as the life-preserving and life-saving arm of the service. And history will bear us out in the assertion that the nation which has attached the greatest importance and given the greatest scope to the medical element of its military establishment, has been the most successful in the wars which it has waged. It is a fact easily demonstrated, that many a campaign has failed that would otherwise have proved brilliantly successful, through the neglect of those sanitary regulations which the educated surgeon could suggest and apply, if unfettered by the restrictions which, in his subordinate position, too often surround him.

If the teachings of history and experience are of any value in directing human affairs, it would seem that they ought to lead civilized nations to place the very highest estimate upon the military medical service. It should not only have free play to fulfil its obvious mission of life-saving upon the battle-field, but it should still more importantly be allowed to dictate, or even to command, the conditions on which it discharges its higher obligations of health-preserving, in the camp or in the field. And yet, modern nations, with rare exceptions, present the singular anomaly of consigning the most powerful element of their military organizations to an inferior and subordinate position, where it has neither the right nor the power to exercise fully and freely its humane vocation. The Government of France has made large advances in the recognition of the rights of the medical department of its army. It has given rank to its officers, and rendered it in many important respects independent in its action. The British Government was forced to a recognition of the value of the medical services to the army of the Crimea, and successful efforts were made to place its medical department on a more independent footing.

Our own Government seems less disposed than any of its contemporaries to listen to the voice of reason and experience. The medical department of its army remains where the present war found it, entirely subordinate to other authorities. In its present position it may become the sport of every political trickster, and be perverted to the accomplishment of partisan purposes. Repeatedly during the present war has it become painfully evident that the Medical Bureau must be more or less completely

emancipated from the jurisdiction of State Departments before it can fully accomplish its humane mission of health-preserving and life-saving in the army. Higher officers of Government, having no just appreciation of the duties of the medical service, have controlled the department so as to destroy the efficiency of branches of its organization. A striking but not an isolated example is found in the organization of the Bureau of Medical Inspection. This was a new and most important branch of medical service, requiring for its proper and successful performance persons skilled in sanitary science. And the law expressly provided that the appointments should be immediately made (to give no time for political influences to dictate them), and persons should be selected only from merit and special qualification. Both the regular and volunteer medical staff contained officers of this stamp. But in palpable disregard of law and justice, the nominations were withheld for six months. And, finally, to complete the work of demoralization, a person was placed at the head of the bureau without a solitary qualification to recommend him. If rumor is correct, the appointments were finally thrown into the political lottery. Good names indeed were drawn, but they were in the minority. In the same manner incompetent persons have been forced into the medical staff in defiance of examining boards and protests of the Surgeon-General. In great emergencies, like that occurring at the second Bull Run battle, the existence even of a Medical Bureau has been overlooked, to the infinite detriment of the public service. In like manner important hospitals have been broken up without a word of consultation with the medical authorities. These are but examples illustrating the manner in which the central office of the Medical Department is hampered, and its efforts nullified by powers which from necessity cannot appreciate its requirements.

If we extend our inquiry to the field, we find the medical department laboring under similar embarrassments. It has neither rank nor power adequate to its importance. It is dependent upon other branches of the service for the means of discharging its duties, and must await their convenience. Its stores cannot be moved, its hospitals cannot be built; in a word, it can do nothing without the aid of the quartermaster. Innumerable are the instances in which the medical service has been completely foiled for want of independent action.

We have noticed but a few of the clogs and hindrances to the free and efficient action of the Medical Department of our army. But they will prove sufficient to convince the most sceptical of the necessity of erecting it into an independent branch of the military service. Nothing but the sagacity and persistent energy of SURGEON-GENERAL HAMMOND has enabled the medical department to surmount the obstacles which impede its action, and achieve that measure of success which the soldiers and the people so gratefully acknowledge.

THE WEEK.

THE English Medical Council have issued the following important recommendations in regard to the primary education of students:

- "1. That all students pass an Examination in General Education before they commence their professional studies.
- "2. That the time of commencing professional studies shall be understood to be the time of commencing studies

at a medical school, and that no qualifying body be held to have complied with the recommendation of the Council which shall allow the Examination in General Education to be passed after the commencement of professional study.

"5. That no certificate of proficiency in General Education, which does not affirm the proficiency of the candidate in Latin, be deemed a sufficient proof of Preliminary Education previous to the commencement of professional studies.

"7. That without professing to lay down any complete scheme of General Education for persons intending to become members of the medical profession, the Committee recommend that the scheme of Examination in Arts of the licensing bodies be, as nearly as practicable, similar to that of any of the national educational bodies."

SURGEON-GENERAL HAMMOND has completed the inspection of the Department of South Carolina, and is about to proceed to the Department of the Gulf. This inspection will lead to many important improvements relating to the hygiene of the troops, and we can but congratulate the army of that department on the visit of the SURGEON-GENERAL and his personal inquiry into its condition. There is even more need, we believe, of the presence of the Chief in the Medical Department of the Gulf. Medical affairs have not proceeded smoothly there, nor has the health of the army been above criticism. It will require, doubtless, but the presence of the SURGEON-GENERAL and his suggestions to rectify errors.

WE call the especial attention of those of our readers who are interested in Military Surgery to the article on gunshot wounds of the chest by Dr. B. HOWARD, Asst. Surgeon U.S.A. The plan of treatment proposed by him is rational, and commends itself for a fair trial. We understand that the Surgeon-General has ordered, at the next engagement of the Army of the Potomac, that a hospital shall be organized under charge of Dr. HOWARD for the sole purpose of treating gunshot wounds of the chest by the sealing process. The results of his experience will be of great interest to the profession.

The N. Y. County Medical Society will hold its anniversary meeting Oct. 5th, 1863, at which time the election of officers will take place. This society deserves great credit for the activity it has displayed for some time past, and we hope that it will continue to manifest its accustomed zeal in matters which interest the profession. In order to insure this end the officers to be elected should be representative men. Among its members there are plenty who are capable of occupying any office of trust which the Society has at its bestowal, and the members should see to it that none others are chosen.

CONSUMPTION OF SPIRITS AND WINE.—The quantity of home-made spirits retained for consumption as beverage in the United Kingdom in the first half of the year 1863 was 8,946,498 gallons, which is almost precisely the same quantity as in 1862, but 200,000 gallons less than in 1861. There were also 121,958 gallons of methylated spirits. The account of foreign spirits entered for home consumption is made up to the end of the first seven months of the year; the quantity was 2,872,879 gallons,—an increase of above 100,000 gallons over the first seven months of either of the two preceding years; the increase is in brandy.—*Medical Times and Gazette.*

Reviews.

A TREATISE ON HYGIENE, WITH ESPECIAL REFERENCE TO THE MILITARY SERVICE. By WILLIAM A. HAMMOND, M.D., Surgeon-General U. S. Army; Fellow of the College of Physicians of Philadelphia; Member of the Philadelphia Pathological Society; of the Academy of Natural Sciences; of the American Philosophical Society; Honorary Corresponding Member of the British Medical Association, etc., etc. Philadelphia: J. B. Lippincott & Co. 1863. 8vo. pp. 604.

(Continued from page 150.)

"THE present rebellion," says Dr. Hammond, "has opened our eyes to the evils flowing from the indiscriminate enrolment of men unfit, by reason of physical infirmities, to undergo the hardships incident to a soldier's life." And he states, that in a hospital under his charge in the early part of the war, containing six hundred patients, he discovered at one time, on inspection, fifty-two cases of inguinal hernia. But the evil of such neglect of proper medical inspection of recruits has been partially remedied, and great effort is being made to insure the faithful execution of the duties of medical inspection of recruits and drafted soldiers. The first chapters of this treatise will essentially aid the inspecting surgeon and the medical officers of the Boards of Enrolment. The questions relating to age, stature, chest—capacity, weight, constitution, are practically considered; and, in the second, the more important points relating to qualification and disqualification are presented.

In his chapter on RACE, the author furnishes some interesting facts respecting the American Indian and the Negro. His own observations have convinced him of the "manifest inferiority of the American Indians to the whites in muscular strength." And of the negro he states that, "by transferring him to a temperate climate he has positively lost rank physically." The causes of such degeneration of the negro are worthy of more exact inquiry than has hitherto been instituted. It is true, as Dr. Hammond states, that brought to a climate like ours, "the negro becomes tuberculous, just as do lions, tigers, and monkeys, which are transported out of their native land;" but are there not other and more active causes of this degeneration? There is reason for believing that in addition to that tendency to physical degeneration which has been manifested by the African when in an abject condition, and especially when transported to a foreign land, there has been a more far-reaching influence to such degeneration in the shameful amalgamation of this race with the races of the most remote ethnological realms. This important and demoralizing cause of the physical degeneration of races, is fully admitted by the author of this treatise. He states that half-breed Indians are less robust and less prolific than their pure-race progenitors; and that "it is generally the case that the children of parents, both *mulattoes*, are sterile." In discussing this question of the influence of the intermarriage of races, the author states that, "a mixture of the blood of different nations of the same race is better than either of the parent stocks. Those nations are furthest advanced intellectually and physically which are most thoroughly composite in their character." And he remarks, "that numerous examples of the improvement of races have been furnished in the history of the world;" and that "in the United States we have the most striking example of all. Who can doubt that the activity both of mind and body, the ceaseless energy, the superb physical development of the people, are due to the commingling of the blood of all the nations of Europe? To be an American is to be a cosmopolitan."

The frontispiece of this volume presents the strongly contrasted physiognomical peculiarities of the eight realms or races of the human species, and the political economist

and philanthropist may profitably press forward in inquiry and legislation, in reference to the physiological and moral obligations of diverse realms of man; for the advancing light of ethnological and physiological science, as well as the interests of civilization, particularly in the United States, would seem to warrant legal measures for preventing the further ruinous amalgamation of the negro and the white bloods.

In the remaining nine chapters of the second section, the author examines the questions relating to Temperament, Age, Sex, Hereditary Tendencies, Habits, Constitution, etc. Passing these topics, we come to the twenty-nine well arranged chapters respecting *Agents External to the Organism which act upon the Health of Man*. The air, light, clothing, and aliment; the hygienic functions they affect, together with the scientific and economic relations they sustain, are leading themes of inquiry in this principal and most practical section of the book; and they are discussed and elucidated in a style of scientific exactness, clear and practical generalization, and ready application to specific objects, which has so decidedly characterized Dr. HAMMOND's physiological writings from the commencement of his career as an author. We propose to examine the several chapters of this section of the treatise somewhat in detail, for they comprise the questions that most concern the hygienist and the military medical officer.

The Atmosphere and its Non-Essential Constituents.—From his own experiments and examination of evidence in reference to the contamination of crowded apartments, Dr. Hammond concludes that not only carbonic acid gas, but the organic matter exhaled from the living body, is most at fault in poisoning the air of close and crowded quarters.

The following experiment, like Regnault's, seems to prove that carbonic acid cannot be regarded as an absolute poison:—

"I confined a sparrow under a large bell-glass, having two openings. Through one of these I introduced every hour 1000 cubic inches of an atmosphere, containing 45 parts of oxygen, 30 of nitrogen, and 25 of carbonic acid, allowing the vitiated air which the animal had respired partially to escape. At the end of twelve hours the bird was in as good a condition as at the commencement of the experiment, and when the bell-glass was raised it flew away as if nothing had happened to it. A mouse subjected to a similar experiment also suffered no inconvenience."

The vital importance of cleansing the atmosphere of hospital wards, barracks, and crowded transports, of the effete or exhaled organic matter that accumulates in such places, needs to be kept in view in all plans for their ventilation. The organic matters exhaled from the human body, when such effete elements accumulate to a certain degree, unquestionably act poisonously and with deadly certainty. Hence the necessity of such means of ventilation as will secure effectual perfusion of the air which immediately surrounds the person, the bed, etc. From our own observations and practical convictions upon this subject, we could wish that Dr. Hammond had even more fully illustrated its applications in his excellent chapter upon Ventilation. But in no other hygienic treatise do we find the chemistry of the atmosphere and the rationale of air-supply or ventilation so lucidly treated. The chapters devoted to hospitals and hospital construction largely develop the advanced views and accurate knowledge which the author of this volume is admitted to possess.

Repeating and verifying many experimental observations upon the more important accidental constituents of the atmosphere, Dr. Hammond has found sulphureted hydrogen to be exceedingly deleterious to animal life. His experiments verify those of Dupuytren, that an atmosphere contaminated by 1-800th of this gas proves fatally poisonous to small animals in a few seconds; and that "these animals, if placed under a bell-glass containing pure sulphureted hydrogen, died immediately, without any convulsive action." Also, that "on post-mortem examination

the blood was found perfectly dissolved, and the blood-corporuscles completely broken down." His experiments with ozone show, that, while it is powerfully antiseptic, even so small a proportion as 1-1000th part of this allotropic oxygen, when mixed in the atmosphere, will destroy the life of mice or other small animals. Generally, his experiments have verified those of Schönbein, and he says: "There is every appearance that a vast field of inquiry exists in this direction, the investigation of which cannot fail to enlighten us relative to the causation of many diseases which now defy our utmost power of research."

Dr. Hammond's observations upon the organic matters found in the atmosphere, under the various circumstances that concern the hygienist, are replete with practical suggestion. Though scattered through several chapters, we will refer to them here. The improved and delicate means of estimating the presence and quantity of organic matter contaminating the air, the relations which such matters sustain to the etiology of various diseases and their localizing causes, and the importance of specific sanitary measures for neutralizing or destroying the morbid effects of such adventitious morphological and putrefactive elements of the air we respire, warrant the hygienist in striving to obtain a more perfect knowledge of these sources of insalubrity. The following quotations, from scattered paragraphs on this subject in the volume before us, will present points of special interest to every reader:—

"The various living animals and vegetables of the earth give off emanations from their bodies, either in a gaseous or morphological state, which are received into the atmosphere, and affect in greater or less degree the hygienic condition of man. To the organic matters emanating from the human body, more than to any other cause, the injurious results of overcrowding are to be ascribed. * * * They are absorbed by the clothing, the bedding, the carpets, the curtains, and many other materials, and even the walls of the rooms inhabited take them up and retain them for a long time. * * * * The emanations from the human body are of a decidedly deleterious character when present in large amounts in the atmosphere inhaled. * * I have collected the water given off by the lungs and skin, and have always found it to contain organic matter, as indicated by the solution of permanganate of potassa. Moreover, the fact that this water undergoes putrefaction very readily, is another evidence that it contains organic matter."

"When we enter a room in which many persons are contained, we are struck with the oppressive character of the air. That it is not altogether due to the presence of carbonic acid, is very apparent from the peculiar odor which is evolved. The same is true of a chamber in which any one has slept, and which has not yet been purified by ventilation, or of the bed which has been lain in."

Having quoted a variety of illustrative instances of fatal diseases and sudden deaths from respiring air charged with organic matters, the author says: * * My own experiments are to the same point. I confined a mouse in a large jar, in which were suspended several sponges saturated with baryta-water; by this means the carbonic acid was removed as fast as formed, as was proven by the fact that on causing a portion of the air in the bell-glass to pass through baryta-water no carbonate of baryta was formed. Fresh air was supplied as fast as was required, by means of a tube communicating with the bell-glass and closed by a little water in the bend of the tube, which acted as a valve. * * * The watery vapor exhaled by the animal was absorbed by two or three small pieces of chloride of calcium. * * * The mouse subjected to this experiment died in forty-five minutes. The observation was repeated many times, and death invariably ensued in less than an hour. On causing the vitiated air to pass through a solution of permanganate of potassa, the presence of organic matters, in large quantities was at once demonstrated.

"There can be no doubt, therefore, that the organic emanations from the bodies of man and other animals, in a condition of comparative health, are positively noxious, or

that too much care cannot be taken to rid our habitations of them. When persons not in sound health are crowded together, we can at once perceive that the exhalations given off from their bodies are possessed of still greater deleterious properties. * * The exhalations in question cling to the clothing, the furniture, the walls, and especially the bedding."

In his chapter upon the ventilation of hospitals, the author has succeeded in giving an unusual degree of exactness and practical value to all the statements respecting the causes and elements of contamination of the atmosphere in wards and habitations. Concerning the organic and putrefactive matters found in the atmosphere he states:

"I placed an exhausting apparatus, connected with a set of Liebig's bulbs, containing a standard solution of permanganate of potassa, in a room which had been, immediately before, thoroughly aired. The apparatus was set in action, and it was found that it required 1085 cubic inches of air to pass through the solution in order to decolorize it. * * * The windows and doors of the room were now closed, and it was not entered or opened for ten days. At the end of that time the apparatus, above described, was introduced and put in operation. It was now found that 725 cubic inches of air were sufficient to effect a complete decolorization of the solution. * * * I have recently examined the wards of several military hospitals. * * * The ridges were open, and an abundance of fresh air entered through the openings in the sides of the wards. * * * With regard to the amount of organic matter present, my observations led only to comparative results, but they accorded very closely with those relating to the proportion of carbonic acid present. A solution of permanganate of potassa—which was decolorized in the open air only after 1353 cubic inches of air had passed through the arrangement—was, in the hospital which contained the least amount of carbonic acid gas in the atmosphere, decolorized by 801 cubic inches" [the carbonic acid being 0.68 parts in 1000 of the air], "and in that which contained the most"—[viz. 2.11 parts of carbonic acid in 1000]—"by 617 cubic inches."

It is a crowning excellence of this treatise that while every chapter and every paragraph bears testimony to the utilitarian design of direct and humane applications, the more important scientific questions are examined in such a thorough and comprehensive way as at once to interest the scientific reader, and throw new or more certain light upon sanitary science and the art of health. The foregoing quotations well illustrate this.

As the reader may profitably examine all that Dr. Hammond has written upon these physiological questions, we will here refer to the results obtained by Dr. Angus Smith, and which are in every respect confirmatory of Dr. Hammond's experiments upon the organic matters found in wards and habitations.

Employing permanganate of potassa as the chemical test, and making close approximative estimations, Dr. Smith found in the open country north of Manchester, England, 1 grain of organic and putrefactive matter in 209,000 cubic inches of the atmosphere. In a house in an insalubrious section of the city he found 1 grain of organic matter in 16,000 cubic feet of air; behind the house, 1 grain in 8,000 cubic feet; while in a close packed railway carriage he found 1 grain in 8,000 cubic feet, and likewise the same large proportion in his own laboratory when the effluvia of a sewer were regurgitating into the apartment. [See *Quar. Journal of the Chemical Society*, vol. x., pp. 221-224.]

That the diligent pursuit of investigations in this direction will, ere long, be rewarded by the discovery of definite facts of greatest importance in the etiology and the hygienic treatment of pestilential diseases, there is strong reason to hope. The microscope has already revealed epithelial and pus cells, and the spores of various fungi floating in the atmosphere under particular circumstances. Dr. Hammond has given a very neat illustration of the method he has

pursued in searching the atmosphere for such accidental elements contaminating the air of hospitals and other places. His apparatus is similar to M. Pouchet's, and he states that he has frequently obtained the spores of the penicillium and other mucedines. His investigations and nice tests of the local atmosphere of close apartments and insalubrious localities have elicited some interesting questions, and have shown what a tempting field invites the studies of medicomicrologists. But, as we view this subject, the discovery of cryptogamic and infusorial organisms constitutes but one of the less important steps in the progress of that severely inductive inquiry which shall unfold the fundamental facts concerning the essential nature and etiological history of morbid poisons and specific miasmata, and the diseases they induce. The author of the treatise before us has manifestly appreciated the practical bearings of such inquiries. In a few paragraphs he has very clearly set forth what is known upon this subject; and we admire the style and matter of his treatment of this and other abstruse and hitherto conjectural themes of speculation, though, personally, we yet regard the pleasant theory of our friend, the late Prof. J. K. Mitchell, respecting the cryptogamic and infusorial causes of disease, as that distinguished observer once advised us, privately, to do; viz. simply as a convenient ladder or scaffolding to enable us to reach, as well as to deposit, new facts in the temple of scientific truth.

We notice that Dr. Hammond has adopted the very apparently complete arguments that have recently been presented by a western gentleman, respecting the origin of Measles from a peculiar fungus that springs up in moistened straw. We confess that various circumstances which we need not mention tend to obstruct our faith in the conclusions that seem to be so legitimately, and with such remarkable completeness and beauty, set forth in the illustrated communications upon this subject, in the *Am. Medical Journal* last year. Upon reflection, it must appear somewhat improbable that the lumbermen of Maine, Pennsylvania, and Minnesota, who have bunked in mouldy straw from boyhood, should be the first to contract measles from beds of like material in military encampments.

Dr. Hammond records the interesting fact, that he finds in a malarious atmosphere immense quantities of mycetous and other fungi, some of which he designates. And he believes that he once contracted an intermittent fever by exposure to musty hay, which his military superiors required him to inspect.

The chapters on Temperature, Light, Electricity, Water, Soils, Climate, and Acclimation, precede the chapter devoted to Hospitals, etc. Each of those chapters embodies some striking facts drawn from the history of the present war. Illustrating the sanitary relations of temperature he presents a tabulated and comparative statement showing the mortality ratio in five of the national armies during each of the last six months of 1861, and of the first six months of 1862. He states that "the sickness and mortality of the United States forces have, since the commencement of the rebellion, been much less during the winter months of the year than during those of summer." His remarks upon the standard temperature of Hospitals, and the proper means for insuring it, are timely and important.

The hygienic uses of water, and the proper methods for its purification, testing, etc., are very fully described. This chapter is of the greatest practical value, and the information and suggestions it embodies will do good service. It would form a most valuable and popular monograph, worthy the Sanitary Commission's list, for general circulation in the Army.

(To be Continued.)

A GENEROUS DONATION.—J. Baxter Upham, M.D., of Boston; has lately made the liberal donation of \$600 in trust to Mrs. Gen. Foster, to supply with wine and other luxuries, the sick and dying soldiers of the Stanley Hospital, Newbern, N. C., at present superintended by eight Sisters of Mercy from New York.

Army Medical Intelligence.

ORDERS, CHANGES, &c.

The resignations of Surgeons S. M. Hamilton and William Moss, U.S.V., have been accepted by the President.

Military Commission to consist of Surgeon Tripler, U.S.A., Major C. P. Kingsbury, Ordnance Department, and Captain C. C. Pomeroy, 11th U.S. Infantry, has been appointed to meet at Chicago, Illinois, on the 1st day of October, 1863, or as soon thereafter as practicable, for the purpose of examining and reporting on the following subjects:

1st. The alleged abuses in relation to the supplies of the City General Hospital at Chicago.

2d. The abuses relative to pay received for soldiers' discharges at the City General Hospital.

3d. Everything connected with the management of the City General Hospital, during the time it has been occupied as a military hospital.

So much of Special Orders, No. 382, August 26th, 1863, from the Adjutant-General's Office as honorably discharged from the service of the United States Surgeon T. P. Gibbons, U.S.V., in accordance with General Orders, No. 100 of 1862, from the War Department, for being absent from duty for over sixty days, has been so amended as to honorably discharge him from the service of the United States, on account of physical disability.

So much of Special Orders, No. 302, series of 1863, from the Adjutant-General's Office, as mustered out of service Surgeon William Arnold, 37th Ohio Volunteers, to date January 6th, 1863, the date at which he was mustered in, is hereby revoked, and he is honorably discharged the service of the United States, to date July 31st, 1863, he having shown satisfactorily that he performed duty up to that date.

Surgeon T. A. Worrall, U.S.V., will report in person without delay to the Medical Director, Department of the East, for duty.

Leave of absence has been granted to the following Officers:—

Acting Assistant-Surgeon Geo. S. Rose, U.S.A. for twenty days.

Assistant-Surgeon J. C. Allen, 13th Pennsylvania Cavalry, for seven days.

Assistant-Surgeon C. H. Haeseler, 20th Pennsylvania Cavalry, for seven days.

Acting Assistant-Surgeon Maurice Tucker, U.S.A., for ten days.

Assistant-Surgeon L. S. Constock, 115th New York Vols., for thirty days.

Surgeon Thomas W. Fry, U.S.V., Superintendent of Hospitals at New Albany, Ind., has been ordered to close General Hospitals Nos. 1, 2, and 3, in that city.

Drs. Kenneth Wharry, Lyman Allen, W. A. Spears, H. C. Merryweather, and W. Pryor, have been appointed Assistant-Surgeons to the 4th, 5th, 8d, 5th, and 1st Regiments U.S. colored troops, respectively.

Dr. G. V. R. Merrill, Elmira, N. Y., has been appointed Assistant-Surgeon 6th Regiment U.S. colored troops.

Dr. A. P. Reichhold, late Acting Assistant-Surgeon, U.S.A., has been appointed Surgeon of the 4th Regiment U.S. colored troops.

Surgeon A. T. Augusta, U.S. colored Vols., has been transferred to the 7th Regiment U.S. colored troops.

Surgeon J. V. Z. Blaney, U.S.V., has been relieved from duty in the Department of Virginia and North Carolina, and ordered to report in person to Brigadier-General Kelly, U.S.V., commanding Department of West Virginia, for duty as Medical Director.

The following named Medical Officers have been ordered to rejoin their regiments in the Army of the Potomac without delay:—

Surgeon H. W. Grominger, 16th Pennsylvania Cavalry.

Assistant-Surgeon A. F. Herman, 16th Pennsylvania Cavalry.

" A. J. Colea, 11th Pennsylvania Reserve Corps.

Surgeon J. D. Osborne, 4th New Jersey Vols.

Assistant-Surgeon H. Gross, 26th Pennsylvania Vols.

" J. D. Sturdevant, 139th Pennsylvania Vols.

" G. J. Townsend, 72d New York Vols.

" W. F. Breakey, 16th Michigan Vols.

" G. J. Townsend, 72d New York Vols., has tendered his resignation on account of physical disability.

Drs. Rudolf Tausky, of Hungary, and Geo. S. Rose, of Pennsylvania, have been appointed Assistant-Surgeons of Volunteers.

Reverend William Y. Potter, having been drafted into the service of the United States, is hereby assigned to the special duty of visiting and inspecting the hospitals in and near Washington and Alexandria.

Upon the recommendation of the Board of Examiners Surgeon Thomas J. Dunott has been honorably discharged the service of the United States, on account of physical disability, with condition that he shall receive no final payments until he has satisfied that he is not indebted to the Government.

So much of Special Orders No. 335, June 23, 1863, from the Adjutant-General's Office, as directed Surgeon R. B. McCay, U.S.V., to proceed without delay to Santa Fé, N. M., and report in person to Brigadier-General Carleton, U.S.V., commanding Department of New Mexico, has been revoked, and Surgeon McCay will report in person to the Surgeon-General, U.S.A., in Washington, D.C.

The following assignment of medical officers has been made:—
Surgeon J. W. Lawton, U.S.V., now in charge of the U.S. General Hospital at Gallipolis, Ohio, will report in person to the Medical Director Department of the Cumberland, to relieve Surgeon William Clendenin, U.S.V.

Surgeon Clendenin, as soon as relieved by Surgeon Lawton, will proceed without delay to Clarksburg, Va., and report in person to Brigadier-General Kelly, U.S.V., commanding Department of West Virginia, for duty.

Surgeon George H. Oliver, U.S.V., now at Baltimore, M.D., Assistant-Surgeon George S. Courtwright, U.S.V., now in Department of the Ohio, Assistant-Surgeons Rudolf Tausky and George S. Rose, U.S.V., to proceed without delay to Santa Fé, N. M., and report in person to Brigadier-General Carleton, commanding Department of New Mexico.

By direction of the President, Surgeon Matthew McEwen, 2d Virginia Cavalry, has been dishonorably dismissed the service of the United States, for misapplication of hospital property, selling whiskey to soldiers, and making false statements in relation to purchases.

Original Lectures.

CYANOSIS.

By J. LEWIS SMITH, M.D.,

PHYSICIAN TO THE ORPHAN HOME AND ASYLUM, LECTURER IN THE UNIVERSITY MED. COLLEGE.

[Being a Paper read before the N. Y. Academy of Medicine, February 18 and March 4, 1868.]

PART V.

UNCERTAIN CASES.

Case 165, M. 12 yrs.	Case 179, 7 weeks.
" 166, M. 10 mos.	" 180, 11 months.
" 167, M. 21 yrs.	" 181, 10 weeks.
" 168.	" 182, F. 7 months.
" 169, F. 2 weeks.	" 183, F. 4 weeks.
" 170, F. 12 hours.	" 184, 7 months.
" 171, M. 16 years.	" 185, F. 12 years.
" 172.	" 186, F. 18 "
" 173, 30 hours.	" 187, F. 34 "
" 174, M. 18 years.	" 188, F. 9 "
" 175, M. 49 "	" 189, F. 24 "
" 176, M. 24 "	" 190, F. 36 "
" 177, F. 20 "	" 191, F. 15 "
" 178, M. 20 mos.	

There may be anatomical errors or vices producing cyanosis which differ from those mentioned; but from the rarity of such it is safe to refer any case of this disease to one or the other of the above malformations. It is probable the art of diagnosis will never be so perfected that the nature of the malformation can be accurately diagnosed from the signs or symptoms.

The fact must not be overlooked that these malformations are sometimes present without cyanosis. This is evident from the statement previously made, that the blue disease may not appear for months or years, although it depends on a congenital defect of structure. In many, probably most of these cases of the non-appearance or deferred appearance of cyanosis, there is some mode of compensation, which usually is such as increases the flow of blood to the lungs. The following may be mentioned as examples. Dr. Quain presented to the London Path. Soc., May 5, 1857, the heart of a child who died at the age of ten months. There does not appear to have been lividity, so far as can be determined from the history. The heart was in the condition described in the first malformation. The orifice of the pulmonary artery was so small as to be practically obliterated, and the aorta was of twice the usual size. "From the posterior third of the arch, and from about one inch of the descending aorta, branches, three on each side, were given off to the lungs. The middle branch on the left side communicated with the pulmonary artery, which was pervious, except at its origin." These branches evidently compensated for the obstruction at the mouth of the pulmonary artery.

Another case was related by Dr. Sieveking, before the London Path. Soc., November 1, 1853. The infant lived six weeks. The tricuspid orifice was closed, so that there was no direct communication between the right auricle and right ventricle, and between the auricles was an aperture large enough to admit the first phalanx of the finger. The left ventricle was hypertrophied, so as to form nearly the entire ventricular portion of the heart, and it gave origin to both the aorta and pulmonary artery. To the right of this ventricle, and opening into it, was a small cavity, evidently the rudiment of the right ventricle. The pulmonary artery was twice the size of the aorta. The state of the heart in this patient was similar to that described under the head of *Second Malformation*, there being this difference between this case and those in which cyanosis was present, that the pulmonary artery was so

enlarged as to receive two-thirds of the whole amount of blood at each ventricular systole. The blue disease appears to have been prevented by this enlargement of the pulmonary artery and the consequent increased arterIALIZATION.

Dr. Peacock related before the same Society, October 17, 1854, the history of a child, eight months old, who was not cyanotic, but during attacks of dyspnoea had slight lividity about the face. Both auricles opened into the left ventricle by separate orifices. This ventricle gave origin to the pulmonary artery, which measured twenty-four lines in circumference. A crescentic opening led from this ventricle into the right, from which the aorta arose only fourteen lines in circumference. In this case, as in the one just related, there must have been almost a complete admixture of the two currents of blood. As both auricles opened in the same ventricle there were virtually but three cavities, as in the *Sixth Malformation*, and, besides, the large arteries were transposed. In this case cyanosis seems to have been prevented by the relatively larger size of the pulmonary artery than of the aorta, and its more favorable location, so that the pulmonary current must have been considerably larger than the systemic.

In the *Medico-Chir. Trans.*, vol. xxv., Mr. Fletcher relates the case of a female patient, nineteen years old, in whom the aorta was constricted at the ductus arteriosus, so as to be not more than one-ninth of the size of the ascending portion. The *Fourteenth Malformation* was present, but the internal mammary arteries, which were of extraordinary size, established a collateral circulation, and compensated for the obstruction. In the *Medico-Chir. Trans.*, vol. v., p. 287, a similar case is published by Robert Graham, M.D. The patient, a male, attained the age of fourteen years, and followed the occupation of weaver. In this case the aorta was impervious at the ductus arteriosus, but the intercostal arteries were found enlarged, and as these by anastomosis unite the portions of the aorta each side of the ductus arteriosus, it is evident that they supplied the deficiency in the aorta, so that the patient, instead of being livid, had a florid complexion.

And this leads us to speak of compensation in cases of cyanosis, a subject of great interest, but to which few observers have given attention. It is evident that modes of compensation, which are sometimes sufficient to prevent cyanosis, may in those cases in which cyanosis is present serve to moderate it and lead to the prolongation of life. The following may be mentioned as examples:—

In a cyanotic male patient, treated by M. Jacobson (No. 75), the pulmonary artery was not more than one-fourth the size of the aorta, and its orifice was greatly contracted by thickening of its valves. "But to compensate for this the bronchial arteries were very much enlarged; three of these vessels passed off from the right and left sides of the aorta to the lungs, and a branch was distributed to either lung from the pericardial artery."

Mr. Le Gros Clark published in the *Medico-Chir. Trans.*, vol. xxx., the history of a male patient (No. 117), nineteen years old, in whom cyanosis was produced by a supernumerary septum in the right ventricle, but there was this mode of compensation: "bronchial arteries unusually large and tortuous, and the branch from the internal mammary artery, which accompanied the phrenic nerve, was nearly equal in size to the parent trunk, and expended itself principally in the adjacent adherent lung." In No. 150, described by Tiedemann, the bronchial arteries were also greatly enlarged, and after being injected were traced everywhere into the lungs.

The intercostal, internal mammary, and bronchial arteries, are not likely to be noticed in an autopsy, and from the above observations it is probable that they are often enlarged in cyanosis, so as to take on a vicarious function. The increase of muscular fibres in the heart, the presence of apertures in the septa to relieve the congestion, and especially the development of insignificant arteries, so as to answer an important purpose in the circulation, afford a

striking exemplification of the wonderful resources of nature in obviating defects.

Although in nearly all cyanotic patients there are direct communications between the two sides of the heart, it is shown by many observations that these communications or apertures are not sufficient in themselves to produce cyanosis. This opinion was expressed nearly forty years ago by Louis, who published an excellent monograph on the subject of these communications, basing his remarks on an analysis of twenty cases. Since the publication of this paper the belief has been pretty general in the profession, and observations continue to substantiate it, that although the apertures may be of considerable size, if the two sides of the heart, with their orifices and vessels, are in their normal state, so that they act symmetrically and without obstruction, and there be nothing to disturb their regular action, cyanosis will not occur. In proof of the correctness of this opinion many cases might be cited of a pervious, and some of a largely dilated foramen ovale without the cyanotic hue, cases which have been published in the journals since the appearance of Louis's monograph. To remove any doubt which may exist on the subject, the following may be mentioned as striking examples in which the inter-auricular or inter-ventricular septum or both were incomplete, without the occurrence of cyanosis:—

In the *L'Experience*, January, 1838, is the history of a shoemaker, who died at the age of twenty-six years, of pneumonia. He had always suffered from palpitation. The heart was very large. "All the cavities and orifices were very wide and open." The foramen ovale was closed, but the inter-ventricular septum was deficient to the extent of an inch in diameter. In the *London Med. Gazette*, April 21, 1843, quoted from the *Trans. of the King's and Queen's College, Dublin*, is the history of an individual in whom the inter-auricular and inter-ventricular septa were both virtually absent, without the occurrence of cyanosis.

Dr. Hare presented to the *London Path. Soc.*, April 17, 1848, the heart of a female infant, who died of pneumonia, at the age of five months. The septum between the auricles was perfect, but that between the ventricles had an aperture half an inch in diameter. Dr. Hare also gave the history of another case, in which the foramen ovale was pervious, and there was an aperture in the base of the inter-ventricular septum three-sixteenths of an inch in diameter.

At a meeting of the *London Path. Soc.*, January 18, 1853, Dr. Hale presented a specimen taken from a child ten weeks old, in whom the pulmonary artery was unusually large, and the aorta of its ordinary size. The septum ventriculorum was almost entirely absent, and the foramen ovale open and of large size. In the *Arch. Gén. de Méd.*, February, 1843, is the history of a foundling child, who died at the age of eleven days from umbilical phlebitis. The septum between the auricles and that between the ventricles, were both absent. A very similar case is related by Farre, but the child died at the age of seventy-nine hours. In all these cases the two sides of the heart were fully developed, the vessels were in their normal situations, and gave free passage to the blood.

The presence of apertures between the two sides of the heart, without cyanosis, does not prove that this disease may not occur in consequence of these apertures, for there might be some compensation which prevented its appearance. But when, as is really the truth, many instances may be adduced of communications between the auricles or ventricles, without cyanosis, and none have been mentioned of cyanosis occurring in connexion with this malformation, if also it was certain the two sides of the heart and their orifices were in their normal state, and there were nothing to disturb the regular action of the heart, it is safe to infer that openings in the septa of the heart are not sufficient to produce cyanosis. Still, facts show that in the common obstructive malformations, the blue disease is more apt to occur, or, if present, to

be aggravated by the presence of these openings, for during the ventricular systole a larger quantity of blood would pass through the contracted orifice to be arterialized if it did not escape to the opposite side of the heart. If the openings are large, slight obstruction or irregularity of the heart's action, especially from inflammatory and febrile affections, is sufficient to produce the cyanotic hue. For example, in the *Gazette des Hôpitaux*, August 24, 1861, Gérard relates such a case, in which there were three inter-auricular apertures, but no lividity was observed till the heart's action was disturbed by an attack of bronchial inflammation. On the other hand cyanosis is not apt to occur, although there be much obstruction, if the septa are complete. It will be recollected that in the tables of cases only one such is given. This explains the fact that cyanosis rarely occurs unless the obstruction is congenital, for it is only in such cases that the two sides of the heart inter-communicate. In support of this view may be mentioned two cases reported by Dr. Elliotson in the *London Med. Gaz.*, vol. x., and one by Dr. Peacock published in the *Lond. Lanc.*, June, 1859—adults of the ages of twenty-three, thirty-nine, and sixty years. In all the pulmonary orifice was contracted, and it can scarcely be doubted that the blue disease would have been present had there been free communication between the pulmonary and systemic sides of the heart.

We now approach the question—What is the proximate pathological state which gives rise to cyanosis? Allusion has already been made to the two theories which prevail in the profession—the one attributing the disease to the intermingling of venous and arterial blood; the other to obstruction at the centre of circulation, and consequent venous congestion.

That the former theory is absurd, in other words, that admixture of the two kinds of blood is not essential to the production of cyanosis, is apparent from the following facts. In one case in the *Fourth Malformation*, there was no communication between the two sides of the heart, and the ductus arteriosus was closed, so that admixture was impossible. Again, in the *Eleventh Malformation*, or that in which the aorta and pulmonary artery are transposed, the blue disease evidently does not depend on the admixture of the two currents. On the other hand, in this curious state of the heart, the more the admixture the less the cyanosis, since the only way in which the systemic current of blood can be arterialized is by passing to the opposite side of the heart. An argument against this doctrine may also be found in the fact that the modes of compensation are not such as in any way diminish or obviate the admixture. It is admitted that in the more frequent malformations cyanosis is increased by the apertures, which allow the intermingling of the venous and arterial currents, but it is more reasonable to consider the intermingling and the cyanosis as the direct results of the malformation, neither having the precedence of the other, than to consider that they are related to each other as cause and effect, or as proximate and remote results. Viewed in this light, the admixture must be considered simply a concomitant of the cyanosis.

The second theory, that of venous congestion, has numbered among its advocates many who have given special attention to the subject, as Morgagni, Louis, and Stillé, but it seems to have even less claim for acceptance than the theory of admixture. It has been seen that in nearly all cases of cyanosis the two sides of the heart communicate freely, so that if the current of blood meets with an obstruction, as it commonly does, it readily escapes to the opposite side where the artery is large and gives it free passage. In this way congestion, if not prevented, is greatly diminished. Again, it will be seen that, although certain of the viscera are frequently found at the autopsy more or less congested, congestion is not uniformly present in the organs, as it would probably be were it the proximate cause of cyanosis.

Moreover, in some patients the malformation is not ob-

structive. The cavities and their orifices are of the normal size, and cyanosis is due entirely to malposition of the vessels. It cannot be said that in these cases there is venous congestion from arrest at the centre of circulation. If there be any congestion, it must be due to the fact that venous blood does not circulate as readily as arterial in the capillaries. It is true that in the paroxysms of dyspnoea there is sometimes more or less congestion; the distension of the jugulars shows this, but it subsides with the paroxysms, and is probably no more than usually occurs when the respiration is greatly embarrassed.

In fine, attempts to express the immediate pathological state producing cyanosis in the terms of a general law have failed. However plausible the above theories may appear in regard to certain cases, there are others to which they are manifestly inapplicable. Those who advocate these theories seem to lose sight of the obvious fact, that the chief want of the economy in cyanosis is arterialization of the blood, and it is hardly supposable that there can be any correct theory of its causation which is not founded on this fact. With this want of the economy in view it does not seem difficult to express a theory in comprehensive terms which is applicable to all cases, such as the following: *Cyanosis is due to vices or defects in the organism, usually congenital, which prevent the free and regular flow of blood to, through, or from the lungs.* So comprehensive a statement includes not only cases of malformation and malposition of the heart and its vessels, but also those few cases in which the lungs are in fault. In most patients, as we have seen, the current of blood towards the lungs is obstructed, and the current of blood from the lungs, in those comparatively rare cases in which the malformation is on the left side.

Physicians, in their post-mortem examinations of cyanotic patients, have usually directed their attention chiefly to the heart and the vessels in immediate connexion with it, so that their description of other viscera is commonly meagre. The pericardium, so far as can be ascertained from the records, ordinarily presented its normal appearance, excepting more or less distension from effusion within. The character and an approximate estimate of the quantity of effused fluid are mentioned in fifty-one cases. With rare exceptions it was pure serum. In seventeen the quantity was half an ounce or under, if we include in the number those in which the amount is expressed in such terms as "due quantity," "usual amount," and "small amount." In twenty-four cases the serum exceeded half an ounce; usually it was estimated at from one to six ounces, but in two it exceeded the latter quantity. In one of the twenty-four the serum was sanguinolent. In two cases the records state that there was a small quantity of blood in the pericardium, and in the remaining patient the two pericardial surfaces were agglutinated by fibrinous exudation.

In some of the autopsies serous effusion was found in the pleural cavities, usually in connexion with pericardial effusion, and in at least one instance the serum was tinged with blood. Old adhesions between the costal and pulmonary pleura were observed in a few instances. The condition of the lungs was recorded with more or less minuteness in 110 cases. Mention has already been made of the large number affected with tubercular disease, which, if not confined to the lungs, was chiefly exhibited in these organs. In thirty-five patients the records state that the lungs were of small size, either by compression, or sometimes, apparently, by the continuance of the fetal state over a greater or less portion of the organ. The compression was produced either by the distended pericardium or by effusion in the pleural cavities. In thirty-five cases the lungs presented a dark color. This hue in some specimens accompanied the unexpanded or fetal state of the organ, but in others there was no diminution of the size, and the dark color was due to engorgement or congestion. In other cases the lungs are said to have been natural, except the color. In nine there was emphysema in a part of the lungs, in two pneumonia; in two the color was pale, in

one a bright crimson; in one the lungs were larger than natural, in one the right lung was absent, and in seventeen these organs were recorded healthy.

Next to the thoracic organs the viscus which would be most likely to be affected in cyanosis is the liver, since this is largely an eliminator of carbon. Mention is made of this organ in twenty-six cases, in sixteen of which it is recorded enlarged, and in four of the sixteen congested. Congestion is also recorded in eight other cases, in which no mention is made of the volume. The parenchyma had a natural appearance in nine cases, but in some of these there was enlargement. From these observations it is probable that the liver is commonly enlarged in cyanosis, and not unfrequently congested. In a few cases the condition of the other abdominal viscera is mentioned; in some as healthy, in others as congested. There were fifteen examinations of the brain, in seven of which congestion is recorded, and in three abscesses in the cerebral substance, in one of which cases the lateral ventricle was also filled with pus; in two there was softening of a portion of the brain, in three the brain was firm or compact, in three the quantity of serum in the cranial cavity exceeded the normal amount, and in one it seems to have been less.

The character of the blood in cyanosis is a subject of much interest, but about which little is known, except that its color is dark, its coagulability feeble, and, probably from the nature of the disease, carbonaceous products are in excess, while oxygen is in less than the normal quantity. No chemical analysis of the blood in cyanosis has yet been published, so far as I can find. There is reason to believe that the hydro-carbons as well as carbonic acid are in excess in cyanotic blood. That carbonic acid is in excess is probable, from the fact that it is one of the chief functions of the lungs to eliminate it. That the hydro-carbons are in excess is probable for the following reason:—The only viscus besides the lungs which can eliminate carbon from the system in any considerable quantity is the liver, and, in the words of Dr. Carpenter, "the composition of the secretion ('bile') clearly indicates that it is intended to eliminate from the blood its superfluous hydro-carbon." Now, that this organ does really perform the vicarious function in cyanosis is probable from its usually augmented size. And as the liver cannot rid the system of carbon except in the form of hydro-carbon, and as the hydro-carbons, as cholesterine, are not formed in the liver but are separated as such from the blood, the inference is reasonable that cyanotic blood contains the hydro-carbons in excess. This idea also derives support from the fact that but little oxygen is required for the formation of these substances. But this is a question which can only be decided by chemical analysis.

From the nature of cyanosis it is evident the treatment should be more hygienic than medicinal. The patient should be warmly clad and kept in a warm room, and all agencies calculated to embarrass or disturb the functions of the body or excite the emotions should be studiously avoided. The diet should be simple but nutritious.

Much has been said of position as a means of alleviating the severity of the disease. It will be recollected that Prof. Meigs of Philadelphia made the remarkable statement, some years since, that he had seen the blue color disappear the very instant the child was placed on the right side, with the head and limbs somewhat raised, and that, by this means, he had saved fifty or sixty children in a hundred. These remarks were evidently made in the belief that cyanosis depends entirely on the apertures between the two sides of the heart, and the consequent admixture of the venous and arterial blood. Faith in a theory must have influenced his observation of facts. It is very evident from the character of the malformations that little real benefit can be expected from placing the patient in any one position. In case No. 7, "the only easy and indeed comfortable position in which the child could remain was that usual in nursing. When erect, the dusky color of the face and neck became a dark blue." In Nos. 14

and 64, position on the right side made no difference with the symptoms. In No. 36 the patient was easiest on the hands and knees; in No. 56, with the head elevated; in No. 68 the paroxysm could be avoided by lying on the left side for ten minutes; in No. 24 the patient suffered most when erect; in Nos. 103 and 156 the patients did not feel well except when lying on the right side; in Nos. 99 and 117 the patients lay indifferently on either side; on the other hand, in Nos. 178 and 191 the recumbent position was badly tolerated. From these observations it appears that some obtain most relief by lying on the back, others on the right side, others on the left, some when on the hands and knees, some when reclining on either side indifferently, while, finally, others suffer least when erect.

There was a time when the paroxysms were treated by venesection, but depletion has long since been abandoned. Physicians now rely on stimulants, antispasmodics, friction to the chest, and mustard pediluvia to relieve the urgent symptoms, although this treatment is but partially successful.

Original Communications.

OPERATION FOR THE REMOVAL OF A SINGLE GOITROUS TUMOR OF THE NECK.

By T. S. SMITH, M.D.,
OF LEXINGTON, MISSOURI.

On the 30th of June, Dr. Ruffin, of this city, brought to my office Q. H., a mulatto man, aged 34 years, by occupation a barber, with what he supposed to be an encysted tumor of the left side of the neck. It rested upon the clavicle below, extending to the border of the trapezius muscle on the outside; in front, it rested against the trachea; above, it reached nearly to the inferior maxilla. The patient first noticed it about four years ago; but its growth was slow, until about four or five months ago, since which time it had been growing fast, and had interfered with his breathing when he turned his head to the right. When asleep, if his head turned to the right, he awoke with a sense of suffocation, swimming in the head, amounting almost to vertigo, and was only relieved by sitting up in bed, and getting his wife to fan him rapidly in the face for some minutes.

He was anxious about it, and desirous to have it removed at once, and as his health was good, and the weather fine, the next day, July 1st, at 10 o'clock a.m., was set for the operation. Assisted by Drs. Ruffin, Young, Vaughn, and Wilnot, I commenced the operation by making an incision from the sterno-clavicular junction to the angle of the inferior maxilla, cutting through the skin, superficial fascia, and platysma myoides muscle. As the tumor was freely movable in every direction, I expected to have reached it at this cut, but finding that I had not reached it, I dissected up the sterno-mastoid muscle, and pushed it as far outwards as I could. The incision was then carefully deepened, until we saw the omo-hyoid muscle lying across the track of the cut. Knowing that it would not do to cut the muscle in two, and finding that we could proceed no further without room, we determined to make another incision, beginning at the middle of the first, and extending across the trachea three inches long.

The flaps made by this incision were turned back, and several large vessels secured by the ligature. This revealed to us the tumor lying under the sterno-hyoid, sterno-thyroid, and omo-hyoid muscles. These muscles were all loosened up with the handle of the knife, and pushed aside, and revealed to us a tumor as large as the fist of a man, covered by a tough membrane, probably adventitious. This was carefully divided across the whole extent of the tumor, and separated from the loose cellular connexion by passing the finger freely all around the tumor.

The tumor was now loose, except at its base, and a strong thick band as broad as the three fingers running across the trachea, and firmly connected to something on the right side. We now had to tie several small and one large artery, and stop the capillary bleeding with ice-water. The tumor was now fully exposed, and we had a fair chance to examine it thoroughly. We had for some time suspected its character, but holding to the generally received opinion that there is no such thing as a single goitre, we were determined to demonstrate beyond a doubt what its true character was.

At its base it was loosely attached to the structures below, but a careful examination by all of us proved it to be firmly attached to the perfectly healthy right lobe of the thyroid gland, by a band as wide as three fingers, and very firm, and at least three-quarters of an inch thick; and in it many large arteries could be felt freely pulsating. It was firmly attached to the carotid sheath, and the superior and inferior thyroid arteries could be seen dipping into its substance. I passed a needle, armed with a strong silk ligature, under the inferior thyroid artery, and tied it; but this wounded the surface of the tumor very slightly, and gave rise to severe bleeding, which neither ice nor the solution of the perchloride of iron would arrest, and we had to grasp it with the forceps, and tie it. It was impossible to get a ligature around the superior thyroid artery without wounding the surface of the tumor, as the artery was imbedded in it, and to have tied it close to the parent vessel would have been to insure a chance for secondary hæmorrhage of a serious character.

There was another vessel which came from the subclavian artery, and was as large as a large-sized goose-quill; this dipped into the tumor on the under side, passed through it, and again showed itself running along the superior border of the tumor for a short distance, then dipped into it again. This artery we supposed to be the transverse colli, or a branch of it very much enlarged. We were very careful to satisfy ourselves that this was not an aneurism, for no pulsation could be felt in it, only at such points where large vessels were passing through it; its outer covering was a very thin transparent membrane, having much the appearance of a serous sac; and the best description that I can give of its appearance is that of a thin sac of bright-pink color, with a broad neck, filled with a number of deep red earth-worms, some at rest, others enlarging and contracting in strict harmony with the heart's movements. To have tied the vessels leading to it, and then have dissected it loose from the sheath of the carotid, and lastly, to have divided its connexion with the right half of the gland, would have left us a large number of arteries coming from the remaining half of the gland, which would have produced fatal hæmorrhage, as they would in all probability have retracted into the gland, and could not have been secured. To have secured the arteries of the right, and have removed both lobes of the body, was hazardous in the extreme.

Considering, finally, all the points bearing on the case, we came to the conclusion that we had better let it remain, that by so doing we were giving him the best chance for life. I pressed the tumor as far as I could from the trachea, replaced all of the muscles, and brought the skin together with ten silver wire sutures and some isinglass-plaster. A wet compress, and roller loosely applied, completed the dressing. We tied fourteen arteries. The operation lasted two and a half hours, most of which time was taken up in examining and consulting. He was under the full influence of chloroform all the while, and took twelve ounces without the slightest untoward symptom. On the 5th day, we removed the dressing, and found the whole of the cut united by the first intention, except when the ligatures came out. At this time, twenty-three days after the operation, he is well, and at his work, and the tumor is reduced one half by internal and external use of iodine.

I believe the existence of single goitre is ignored by all the writers on surgery or pathology that I have seen; but

this case has been demonstrated by the knife on the living subject, as clearly as it could have been on a dead subject: and this man tells me that his mother died of a similar tumor on her neck; had he told me this before I cut him I should not have done so. I am fully convinced of the frequent existence of single goitre in this country—at least, I do not remember to have seen it in any other part of the United States. I know at least a dozen cases in this place, which has a population of from 5000 to 6000. I know one family here, in which four sisters, mulattoes, have a large single goitre. In the white man or woman I have seen only two or three single goitre, and they were either scrofulous or syphilitic subjects.

LEXINGTON, Mo.

COMMENTS UPON THE CASE.

By PROF. VALENTINE MOTT, M.D., LL.D.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—I received the inclosed paper some days since from DR. SMITH, of Lexington, Missouri, and forward it to you for publication.

It details a formidable and difficult operation, with an interesting and gratifying result.

It establishes the fact, that one lobe of the thyroid body may be goitrous without the whole body being involved.

I was ignorant of this fact myself, and have taught for over fifty years a different opinion.

Dr. Smith's case is conclusive, as far as a case can go, of the goitrous state of one lobe of the thyroid. And his statement of cases about him is fully confirmatory of the fact.

My observation and experience in this country extend over a long period, and I am certain that I have never seen one side only of this body affected.

My opportunity some years since in Switzerland was extensive, particularly in the Valais country, where at every turn we see goitre. In no instance did I see it on one side.

This fact I published on my return home. An eminent physician in Geneva confirmed me in this opinion.

I have seen and operated upon tumors of the neck which have so much simulated an enlargement of one lobe of the thyroid body, and lying too under the sterno-hyoid and sterno-thyroid muscles, that not until the operation was about finished, did I know the truth; the whole structure of that side being fretted away by the pressure of the tumor, so that nothing but its collapsed tunics remained.

One which I lately removed, nearly the size of my two fists, was of this description.

Yours truly,

V. MOTT.

New York, Sept. 25, 1863.
1 Gramercy Park.

ON THE TREATMENT OF GUNSHOT FRACTURES OF FEMUR AND TIBIA.

By JOHN T. HODGEN, M.D.,

SURGEON U.S. ARMY.

I DESIRE once more to tax the patience of your readers on the subject of gunshot fractures of the femur and tibia, and the appliances for their treatment.

Amputation in these cases has been pretty generally abandoned by our army surgeons, except when joints, blood-vessels, or nerves, are implicated. To this practice of preserving limbs, they have been guided by the facts accumulated during the present war. But the best mode of treatment, and the amount of interference on the part of the surgeon, seems not to be so fully determined.

When a ball strikes a long bone, there is more or less shattering, and a greater or less number of fragments are

detached from all connexion; others, though separated from bony parts, still adhere by periosteum.

Now, there is no question but that the duty of the surgeon, immediately after such injury, is to remove all the completely separated fragments; but as to those still holding their periosteal relations (since the periosteum is the framework by which the blood-vessels reach the bone, and the presumption being that the vessels are still in condition to transmit blood to the bone for its nourishment), each fragment, however small, serves as a nucleus from which the material destined to unite the bone is effused. It therefore becomes desirable to save all such fragments, instead of resecting in continuity, as has been practised by many of our surgeons, as I think to the disadvantage of the patient.

I would say, then, that resection in continuity is never profitable; and that it diminishes the chances of recovery with a useful limb, as it removes a part of the material, which, if left, would aid in the union.

Meddlesome interference often diminishes the chances of recovery. In compound comminuted fractures, it is a common practice to use the probe freely every few days, with the view of detecting detached fragments that may be a source of irritation. The surgeon is impatient for the removal of dead and yet fixed portions of the bone; and, finding a pair of forceps in his case of instruments, he is tempted to use them in cutting off the offending part, and thus causes an inflammatory action that results in the death and final separation of a much larger portion than would have otherwise been lost, to say nothing of the suffering and prostration of the patient necessarily following such interference. It must be remembered that several weeks are required by Nature, in her efforts at removing foreign matters, to cut loose a piece of dead bone, so that the surgeon's forceps may remove it.

Again, limbs are too frequently moved for the purpose of cleansing them; not that I object to having them kept clean, but the disturbance which is necessary, in consequence of the imperfect appliances used in supporting the limb, is sure to retard, if it does not altogether prevent union.

I would say in these cases of compound comminuted fractures of the femur and tibia, remove all fragments that are entirely free; when this is done, make no further explorations in search of dead or detached fragments for six weeks, or two months. Place the limb in the position in which it is destined to remain during treatment, and so arrange the apparatus that it will not be necessary to remove it in keeping the wound free from irritatory discharges.

In the AMERICAN MEDICAL TIMES, of the 21st of May, of the present year, I gave a cut, and description of a cradle-splint (as I call it), which has been used with advantage. Since that time I have used a more simple apparatus, and found it to answer all the ends served by the first, and in some respects to be more desirable.

The splint referred to is a combination of the principles of Smith's anterior splint, Swinburn's extension, and the strip bandage supports used in my cradle-splints. The cut gives a clear idea of it as applied.

The body of the splint is made of No. 2 iron wire, which is sufficiently strong to support the limb, all of one piece, bent as seen in the cut.

The dimensions are as follows:—Four inches across the bottom of the foot; twenty-two inches from the foot to bend at the knee; twenty inches from the bend of the knee to the upper ends of the wire (corresponding to the pubes and hip when applied). These upper ends are eight or nine inches apart, being separated by a bow of thick wire; another similar bow is placed at the knee, having a span of six inches.

These two bows are made so that they can be put on or taken off without disturbing the dressings, and are put in position after all else is arranged—the one at the hip having a loop at each end to receive the upper ends of the

splint wires, the other simply hooks, to be looped on at the knee.



How Applied.—A bandage is applied to the foot; adhesive straps, three inches wide, are applied each side of the leg, extending four or five inches below the foot, and up to the knee in case of fracture of the femur; to the fracture, in case the tibia is the injured part. The roller is then extended smoothly over the adhesive plasters.

That limb of the splint designed to pass next the pubes is bent upwards, at a point from the bend of the knee in the splint corresponding to the distance from the bend of the knee to the pubes on the sound side of the body.

Strips of bandage three inches wide are now looped over one limb of the splint, continuously from the upper to the lower end, and allowed to belly downwards a distance equal to two-thirds of the diameter of that part of the extremity designed to rest upon each one; the other ends of these strips are pinned over the other limb of the splint, thus forming a double inclined trough in which the extremity is now to be placed. The free ends of the adhesive strips are next fastened to the cross-piece at the foot, three inches apart, and the whole suspended from a pulley fixed to the ceiling, or a frame; the pulley should be almost directly over the foot, giving the suspending cord an oblique direction, that in this way we may have sufficient extension.

If the patient is disposed to slide towards the foot of the bed, this must be elevated on two bricks under each of the legs at the foot of the bedstead.

The advantages claimed for this arrangement, are:—

1st. That the limb is entirely free from compressing bandages, so that circulation and nutrition are uninterrupted; consequently repair goes on in its wonted course.

2d. The limb may at any time be examined without disturbing the dressings.

3d. Any one of the supporting strips may be removed and replaced without displacing the fracture; consequently the external wound may be frequently dressed, and all offensive matter removed as often as may be required.

4th. The absence of the perineal band, and the limb being suspended on strips of muslin, there can be no perineal excoriations, no ulceration of the heel, while every part of the limb is kept cool in the hottest weather.

5th. The freedom with which the limb moves in obedience to impulses received from the hip and upper part of the thigh, allows the patient to sit up, to move to any part of the bed, or lift himself on a bed-pan, without

disturbing the fracture or causing the patient the least pain.

All of these requisites are not answered by any other splint in general use. Dr. Smith's anterior splint embraces all the qualities required for simple fractures; but it is not, in my opinion, so well adapted to compound fractures, as it does not admit of the limb being so easily inspected, or offer the same facilities for dressing.

St. Louis, Mo., Sept. 11th, 1863.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, September 16, 1863.

DR. JAMES ANDERSON, PRESIDENT, IN THE CHAIR.

A REPORT ON THE PROPERTIES AND COMPOSITION OF THE RIDGEWOOD DISINFECTING POWDER.

A REPORT was received from the Section on Public Health and Legal Medicine, through its Chairman, Dr. Griscom, on the *Ridgewood Disinfecting Powder*, which had been presented to the Academy a few months previously, and referred to that Section for examination and report.

After some general remarks on the superior value of solid and fluid disinfectants over those of a gaseous form, chlorine and nitrous acid, etc., as going directly to the source of the evil, and preventing its formation or escape, instead of attempting to control the noxious matters after their dissemination, as gaseous correctives can only do, the report gives the details of several experiments which were made to test its alleged deodorizing and disinfecting properties.

The first test to which it was subjected was on the contents of a vessel in which a number of small bones had been macerating in water several weeks, giving forth an intolerably offensive odor; a handful or two of the powder being thrown in the vessel, in five minutes the offensiveness was entirely corrected, and when examined three months afterwards (at the close of the intensely hot summer), the good effects remained as manifest as at the first. The bones were found entirely denuded, in perfect preservation, and they as well as the water odorless.

The second experiment was a comparative one. The carcasses of two dogs which died on the same day, were placed one on the ground, exposed to the influence of air and sun; the other, enveloped in a bed of the powder, about two or three inches thick. On the fifth day, the temperature all the time being considerably over 100°, the first carcass was found completely decomposed and yielding a most fetid effluvia. This effluvia was immediately arrested by throwing upon the remains a pound or two of the powder. Upon removing the other body from its bed, it was found in an almost perfect state of preservation, the only manifestation of decay being some swelling of the trunk from the internal generation of gases. The inference from this experiment was, that the ridgewood powder acted as an *antiseptic*, as well as a deodorizer. About four weeks afterwards, the great heat of the weather having continued in the meantime, the second carcass (having been replaced in its powdery bed) was found to have undergone some decay, evinced by a partial denudation of the skin of its hair, and some apparent softening of the flesh. It was however, considering the state of the weather, and the length of time, in a remarkable state of preservation.

A third experiment was made by eviscerating a small animal, and sprinkling the cavities with the powder, as well as covering the body externally with it. This was to avoid the generation of intestinal gases. The result was that after four weeks, the body being again exposed, the flesh was found dry, well preserved, and inodorous, the process of decomposition, to all appearance, having been suspended.

From these results it would seem that this article would prove a valuable assistant to the undertaker, in the preservation of bodies, especially after post-mortem examinations.

Other experiments were reported by the Committee, all going to prove its power of deodorizing decaying matters, and preventing decomposition.

In addition to the experience thus obtained by the section, other evidence was collected from the reports of several military hospitals in Washington and elsewhere, where the new disinfectant had been tried. This testimony was strongly corroborated. The ability of the Ridgewood powder to control the ammoniacal odor of stale urine, to correct the smell from water-closets, to remove the offensiveness of the post-mortem room, when sprinkled on the floor, etc., and to check the decomposition of the dead bodies, even after its commencement, were strongly testified to by several surgeons-in-charge, among whom we recognised several well known names, as Drs. Paul B. Goddard, Antisell, U. H. Butler, Judson, and others which we do not recollect.

Dr. Butler, of the Armory Square Hospital, states in his report to Medical Director Abbott, "the superintendent (of the dead house) reports that on sprinkling a moderate quantity on badly decomposed bodies, the offensive effluvia disappeared, and he gives it as his opinion that it is the best disinfecting agent we have used."

The composition of this powder, as given in the report to the Academy of Medicine, is as follows:—Carbolic acid, five to eight per cent.; sesquichlor. ferri, two to five per cent.; charcoal or pulverized pumice, five per cent.; lime, from magnesium limestone, five per cent.; Fuller's earth, seventy to eighty per cent.; and a trace of the sulphates of potash and soda.

From the facts above reported, and an examination of these components, it is manifest that this powder is a valuable addition to the list of deodorizers and disinfectants, and that while others, as the nitrate of lead, chloride of zinc, and permanganate of potash, are equally efficacious, and perhaps better adapted to some necessities, especially about the persons of the sick in hospital wards, etc., the greater cheapness of the Ridgewood powder must commend it in all other localities, and for general use.

The report to the Academy concluded with a recommendation of its use in stables, especially in cities, as a means of preventing the unpleasant odors from the animal feces and urine, and as a means of retaining in the manures, the gases whose escape impairs value for agricultural purposes, at the same time that they infect the air.

Its general use in the filthy courts, cellars, privies, and even in the streets and gutters of the city (instead of the lime which we sometimes see so freely and uselessly distributed), would doubtless have a happy effect in purifying those nauseous localities; and the same may be said of many of the camps and fortifications of the army, especially of those cities which have recently been captured from the rebels, and as is always the case after long military occupation and siege, are in shockingly unsanitary condition.

SURGICAL INSTRUMENTS CONSTRUCTED OF ALUMINIUM BRONZE.—M. Morel-Lavallée has recently made a very favorable report to the Paris Society of Surgery upon a pocket-case of instruments fabricated by MM. Robert and Collin of aluminium bronze, consisting of ninety-five parts of copper and five of aluminium. All the instruments except the blades are made of this material, and they may advantageously replace silver in many cases, and in others iron or even steel. The alloy is not oxidizable, and preserves its brightness amidst the various agents it is brought in contact with in daily practice.—*Lancet*.

ENLARGEMENT OF THE HEART IN CHLOROSIS.—Dr. Strak believes that sufficient attention has not been paid to this complication. He adduces four cases in which enlargement of the heart was observed during the progress of the chlorosis, diminishing again as the original disease underwent amendment.—*Archiv. der Heilkunde*, 1863, No. 1.

American Medical Times.

SATURDAY, OCTOBER 10, 1863.

SICKNESS AND DEATH-RATES IN THE ARMY.

How much life and vital force does the great War for the Republic necessarily and inevitably require, and how much does it needlessly waste, are questions that not only concern every citizen and every home in the land, but profoundly concern the State and the great interests of civilization and humanity.

In Circular No. 15, from the Surgeon-General's Office, which has just reached our table, we discover how these vital questions are being studied in the Medical Bureau, and how wrought out in practical labors by medical and commanding officers in the field. And we are free to say that the manner and the results of such working, both at the Bureau and among the tented myriads where the nation's life struggle is progressing, do far better defence of the Medical Staff, and more emphatically pronounce its deserved encomium, than aught we can write. Not to sympathize in such labors, and not to aid and sustain the men upon whom devolve the life-conserving duties in this great war, is unworthy men claiming membership in our profession, or citizenship in the Republic. And with augmented emphasis would we apply this remark to any military surgeon who may, in heart or even practically, by his negligence of official and defined duties, be charged with such indifference.

It is a fact well known to the profession that, in the earlier period of the war, it was regarded as doubtful whether the suddenly gathered medical staff of the volunteer army could or would be brought into the habit and duty of faithfully reporting statistics, and practically enforcing systematic sanitary regulations, and exact hygienic observations. We have reason to believe that it was the painful recollection of such failures in the official duties of volunteer surgeons in the Mexican War, no less than his humane purposes, that led that veteran surgeon, Dr. ROBERT C. WOOD, the acting Chief of the Bureau, at the very opening of the war, not only to request the War Department to sanction the organization of the United States Sanitary Commission, but actually to accept an appointment in that Commission, and become one of its effective workers.

These remarks are justified by the history and progress of sanitary inquiry and sanitary works in the army medical department; and if our readers will examine the following figures and quotations from the circular before mentioned, they will obtain some idea how the work of sanitary inquiry and improvements was conducted during the first year of the war, and how the study of military hygiene and the vital statistics in our vast armies are now systematized and progressing in the medical bureau.

Dr. J. J. Woodward, who is in charge of the preparation of the medical history of the armies in the field, reports under date of September 2d, that

"In accordance with instructions from the Surgeon-General, directing me to prepare a brief statement of some of the more important facts with regard to the influence of season and region on the camp diseases of the army, as exemplified by the statistics of the first year of the rebellion, I have the honor to sub-

mit for your consideration the accompanying tables and diagrams, with a few brief remarks.

"The compilation of the medical statistics of the year ending June 30, 1862, has now been completed for some time, and the manuscript of the first volume of the medical history of the war, of which these statistics form a part, will, it is believed, be ready in time to be laid before Congress at its approaching session.

"Elaborate statistical tables, with accompanying diagrams, have been compiled separately for each of the great armies in the field, all of which have important bearings upon the subject now under consideration. To present these tables would, however, require a volume of some size, and is therefore out of the question at present; I therefore merely offer certain general facts with regard to a few points of interest, such as the mortality rates, the general sickness rates, and the prevalence of a few of the most important diseases during the first year of the war."

The reporter proceeds to state, that "the general mortality rate of the armies of the United States during the first year of the rebellion was 67.6 per thousand of mean strength, including with deaths from disease those from wounds and injuries. The mortality from disease alone was 50.4 per thousand, that from wounds and injuries of every kind 17.2 per thousand."

A summary of the mortality statistics is presented in the following table:—

Monthly mortality rates of the armies of the United States during the year ending June 30, 1862, expressed in ratio per thousand of mean strength.

	1861.						1862.					
	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.
Atlantic border.	2.00	2.06	1.79	2.04	2.68	3.24	2.93	2.48	2.58	3.16	3.27	3.58
Central region.	1.02	2.73	3.49	4.66	6.36	6.61	8.68	9.27	10.66	6.67	7.40	6.15
Pacific border.	1.45	1.48	1.18	1.54	1.48	0.91	0.21	0.44	1.08	0.86	0.00	0.44
												10.76

Respecting the general prevalence of disease, Dr. Woodward states that:—

"The difference between the three regions above contrasted is not so conspicuous in the general sickness rates as in the mortality, yet the whole number taken sick in the central region was greater than on the Atlantic coast, and in this again greater than on the Pacific. In the first, the number taken on sick report during the year was 3368.14 per thousand of mean strength; in the second, 2748.83, and in the third, 2586.60. It will thus be seen that in each of these regions a large proportion of the troops must have been taken sick several times during the year."

* *Monthly sickness rates of the armies of the United States during the year ending June 30, 1862, expressed in ratio per thousand of mean strength.*

	1861.						1862.					
	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.
Atlantic border..	331.35	372.13	298.36	267.14	255.90	230.99	199.92	183.88	167.25	214.52	208.45	239.75
Central region..	258.65	856.91	825.40	826.11	800.24	905.71	929.55	249.85	252.61	284.32	259.70	232.83
Pacific border...	198.91	200.87	245.27	210.19	279.39	193.84	201.13	258.27	236.67	136.05	157.47	193.51
												2586.60

"Under the head of camp fever, all the cases reported to the Surgeon-General's office as typhus, typhoid, common continued, and remittent fevers, are here included. Of these several categories it may well be doubted how far the cases reported as typhus were really of that character. From the details furnished by sanitary reports it appears probable that, with perhaps rare exceptions, what was regarded as typhus was, in fact, of a very different nature, severe typhoid fever, with cerebral complications, and congestive intermittents in scorbutic constitutions being shown, in some cases at least, to have been regarded as typhus. This error was not, however, very widely diffused, the whole number of cases reported as typhus amounting to but a few hundred. As for the cases reported as common continued fever, the vast majority appear to have been different only in degree of severity from those reported as typhoid or remittent. Moreover, while a certain amount of uncomplicated enteric and remittent fever certainly did occur, especially at the commencement of the war, the vast majority of the camp fevers of the army were of a mixed character, exhibiting undoubted enteric phenomena, variously combined with the periodicity and other peculiarities of malarial disease, and still further modified by the tendency to incipient scurvy, which is the ordinary concomitant of camp diet. To indicate this mixed nature, the term typho-malarial fever, which I had the honor to suggest to the department in June, 1862, appears appropriate, and, at the present time, is coming into very general use.

"A correct understanding of the nature of these fevers is of the utmost importance, as they play a conspicuous part in the mortality of our armies. During the year under consideration 44.5 per cent. of all the deaths from disease were due to camp fevers.

"An examination of Table III shows that the frequency and mortality of camp fever differs considerably in the three regions. On the Atlantic border the annual ratio of cases was 238.99 per thousand of mean strength, and the ratio of deaths to cases was 71.9 per thousand, or one death to every 13.9 cases. In the central region the annual ratio of cases was 319.94 per thousand, and the ratio of deaths 101.8 per thousand cases, or one in 9.8. On the Pacific coast the annual ratio of cases was only 60.95 per thousand, and the ratio of deaths to cases 45.2, or one in 22.1. The severity of camp fever in these several regions is thus shown to differ as considerably as their frequency."

"Diarrhoea and dysentery caused about one-fourth of all the sickness reported. On the Atlantic border more than half the army suffered, and in the central region the number of cases almost equalled the mean strength. Although not nearly so fatal as camp fever, affections of this class were an important cause of the mortality of our army. In the chronic cases, though most generally called diarrhoea, and not dysentery, the colon was the seat of the chief lesion. The most characteristic post-mortem appearance was a thickened, softened condition of the mucous membrane, with pigment deposit and enlargement of the solitary follicles, frequently terminating in ulceration, the ulcers being sometimes punctiform, sometimes extensive, and irregular. In this condition the small intestine fre-

quently participated, more or less, but often produced nothing abnormal."

"Great efforts have been made during the fiscal year ending June 30, 1863, to secure completeness in the medical statistics; and these efforts, although not crowned with perfect success, have had the effect of rendering the reports for that year comparatively complete, and the work of compiling them is progressing as rapidly as is possible with the clerical force employed.

"It is believed that, as the attention of the medical officers in service is now fully directed to the effort being made to compile these statistics, their hearty co-operation may be relied upon, and that the figures for the present year may be hoped to be as nearly complete as can be expected from any great army in time of war."

Monthly rates of camp fever in the armies of the United States during the year ending June 30, 1862, expressed in ratio per thousand of mean strength.

	1861.						1862.						
	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	For the year.
Atlantic border..	8.80	18.78	25.60	27.64	27.88	19.74	18.85	13.81	10.99	17.42	24.88	27.07	288.99
Central region..	15.94	34.07	38.06	36.57	35.38	26.00	21.98	18.15	16.46	23.71	29.89	27.64	819.49
Pacific border...	1.45	6.23	1.97	9.73	5.81	7.48	8.78	5.00	5.15	2.28	5.52	1.78	60.95

Monthly rates of diarrhœa and dysentery in the armies of the United States during the year ending June 30, 1862, expressed in ratio per thousand of mean strength.

	1861.						1862.						
	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	For the year.
Atlantic border..	163.23	116.29	70.80	62.66	46.00	23.54	28.20	22.20	35.22	67.20	70.92	87.06	646.01
Central region...	88.93	127.72	93.84	92.50	69.68	61.27	68.00	64.18	68.66	105.82	97.07	88.02	994.77
Pacific coast....	29.41	40.67	33.12	32.00	35.92	20.12	18.07	20.02	28.87	18.97	29.09	30.25	319.64

The statements we have here quoted cannot fail to interest every member of the profession, for they plainly foreshadow the accomplishment of most desirable ends in the conservation of life and military effectiveness in the national forces. As civilians, we confess our sense of obligation and hearty sympathy in the great work of sanitary inquiry that is silently going forward in the medical bureau and in the field, and we would earnestly conjure the surgeons of regiments and directors of corps to give the greatest practicable completeness and value to their stated inquiries and reports. It is by means of more comprehensive and complete statistical records and sanitary works that military surgeons are to command a more liberal treatment from the government; and this, certainly, is the least of the reasons for such faithfulness in duty.

THE WEEK.

The British Medical Journal raises the following pertinent inquiry relating to vivisections:—

"A noble lord, and, if we are not mistaken, a keeper of foxhounds (which sporting position may he long maintain!), is at the head of the Royal Society for Protection of Animals; and many honorable sporting gentlemen also support it. Now, the object of the Society is, as we understand it, to put down, as far as it may, all unnecessary pain which may be inflicted on animals; and, under this head, vivisections are denounced. Are these gentlemen, then, and this noble lord, ready, on the principles which they

advocate, to put down their guns and their foxhounds? They are bound to do so on their own principles, if consistent. We have no hesitation in asserting that more pain (and manifestly unnecessary pain) and suffering is produced in animals by the gun of the sportsman on the 12th of August, the 1st of September, and the 1st of October, than is occasioned in any twenty years of vivisections, as practised in this country. The fact is obvious, and readily comprehensible to any one who will give the facts of the case due consideration. Out of every hundred animals shot at, a certain percentage get away wounded. What is meant by the term *wounded*? Why, simply this: that the animal has been vivisected by the shot which struck it; and that, according to the nature of the part so cut up, will the pain of the animal be great or small, of short or long duration. A hare goes off with a broken leg, the two sharp ends of the bone sticking through the skin; and he may live for days in this state, and even recover from it. What vivisectioning process of the physiologist can be compared with the pain inflicted on this animal by the shot of the sportsman?" * * * The physiologist has this to say, which gives him an infinite superiority over the sportsman: he experiments with the object of relieving human suffering, and he operates whilst the animal is under chloroform. The sportsman has no other object than amusement in the business."

The Sanitary Commission is holding a general meeting at Washington. This meeting will be important, as it is the first held since the retirement of Mr. OLMSTEAD, the General Secretary. The business of the Commission is

enormous, extending to every branch of the army, and yet its energies do not flag.

IN a recent report of Mr. SIMON, Medical Officer to the English Privy Council, reference is made to the effect upon the human subject of meat infected with parasites, and the possible ill effects of consuming the flesh of animals affected with anthracite or anthracoid disease, such as the braxy of sheep, the black-quarter of horned cattle and sheep, tongue carbuncle, hog-cholera, parturition-fever of cows, or with infectious fevers. He is "of opinion that the absence of evidence is enough to show that immediate ill effects of any considerable importance do not ordinarily follow the consumption of meat" from animals which have been affected with pleuro-pneumonia and aphtha. In regard to the opinion that boils are caused by the consumption of diseased meat, he says: "Though I have not yet found any fact which I can deem conclusive in support of this opinion, I must admit that the alleged connexion is not *primâ facie* impossible."

Reviews.

A TREATISE ON HYGIENE, WITH ESPECIAL REFERENCE TO THE MILITARY SERVICE. By WILLIAM A. HAMMOND, M.D., Surgeon-General U. S. Army; Fellow of the College of Physicians of Philadelphia; Member of the Philadelphia Pathological Society; of the Academy of Natural Sciences; of the American Philosophical Society; Honorary Corresponding Member of the British Medical Association, etc., etc. Philadelphia: J. B. Lippincott & Co. 1863. 8vo. pp. 604.

(Concluded from page 164.)

DR. HAMMOND's observations upon the hygienic questions connected with the peculiarities of soils, locality, and climate, are worthy the attention of every military officer. Quoting M. Schübler's instructive tables, showing the hygroscopic properties of different soils, Dr. Hammond goes on to say, "that the argillaceous soils and those composed of humus are pre-eminently distinguished for their ability to absorb moisture. On this account ground which is in great part composed of these substances does not answer well for camping purposes. Perhaps the worst of all kinds of soil for camp is that in which sand and humus form the upper stratum, the lower or subsoil being formed of clay. . . . Many camps have been rendered unhealthy solely, so far as could be perceived, through the bad character of the soil in respect to its power of absorbing and retaining moisture."

Respecting the capacity of different soils for retaining caloric, the author quotes his own experience in *bivouacking* as corroborating the definite experiments of Schübler, who has shown that calcareous sand, pure clay, and humus, stand related in this respect, as 100, 66, and 49. And as respects the important quality of soils in their capacity for absorbing organic exhalations or effluvia, and again yielding them under the oxidizing test of the alkaline permanganates, the author has, from his own neat experiments, derived the following results. The effluvia from a jar containing putrid meat, vegetables, and urine, being made to permeate a given quantity (250 grains) of each specimen of soil, and a measured current of fresh air being passed through the same soils, both previously and subsequently to that process of infusion with the effluvia, these numbers showed the cubic inches of air required as passed through to decolorize a standard solution of permanganate of potassa. The column A shows the result previous to the permeation of the soils by the effluvia; while the column B shows the subsequent result.

Kind of Soil.	A.	B.
Pure Sand - - - - -	73.5	67.5
Dry Clay - - - - -	59.	49.5
Sand, Clay, and Marl - - - - -	64.5	58.
Humus - - - - -	41.	11.5

Considered practically, with reference to the deodorizing and disinfecting power of dry earths and the different soils, these are interesting results; and as respects the relative value of sand and humus, these numbers probably give the true indications; but as respects albuminous soils there must be taken into consideration the remarkable avidity with which clay and other porous silicates of alumina and lime absorb and chemically combine ammonia, seizing upon it even in its ordinary conditions of combination in azotized effluvia, and transferring or fixing it in the clay. This property, as described by Liebig, Thompson, and Prof. Way, must be regarded as good proof of the value of dry, calcareous clays for absorbing and neutralizing animal effluvia.

Hospitals.—The hundred and forty pages that Dr. Hammond has devoted to hospitals, the principles of their construction, location, management in the field and in permanent institutions, their lighting, heating, ventilation, etc., are replete with practical instruction. Forty-two woodcuts, twenty-five of which are original, are given to illustrate the principles of construction; and as the author, in his duties as Surgeon-General of the army, must have realized the immense responsibility of ordering suitable provision for not less than a hundred thousand sick and wounded men during the first month of his administration of the Medical Bureau, and of supervising such provision for not less than two millions of cases in field and general hospitals during the succeeding twelve months of service, we feel assured beforehand that what he has written respecting military hospitals and their management cannot fail to command the attention of the medical profession and of the national Government.

After a summary review of the leading features of the more important hospitals of European and American cities, showing what errors and defects should be anticipated in the location, construction, and arrangement of hospital buildings, the author proceeds to state in a very lucid and emphatic manner the true principles of hospital-construction. The following paragraphs illustrate his views:—

"In setting out to build a hospital the first object to be had in view is the provision of ward accommodation; the next the provision of accessories, such as kitchens, water-closets, bath-rooms, offices, etc. We shall therefore first consider the best form for the ward, and the several appointments which should be given to it.

Wards.—A hospital ward should be of an oblong shape, the form which is best adapted for the arrangement of beds, and supplying the patients with sufficient light and fresh air without wasting space. The width should not exceed twenty-five feet, a space which will allow seven feet six inches for the length of each bed, with a passage of ten feet between the rows. If the width is greater than this, the distance between the windows is such as to prevent free ventilation; if less, sufficient room is not afforded.

"In permanent hospitals the height should not be less than fourteen feet, nor over sixteen. Less than this renders the air close, while more is of little or no advantage. In temporary hospitals, such as those often required in the army during war, which are not ceiled, and which are ventilated at the ridge, twelve feet to the eaves will be found to answer if the roof is high pitched—the only kind which should be constructed, as flat roofs are more liable to leakage, and render a ward hotter in summer than those that are steep.

"The length of the ward depends upon the number of beds it is to contain. The bed should be about three feet in width, and the average distance between should be four feet. As they are arranged in pairs between the windows, the two beds of any one pair are not so far from each other as this; but compensation should be made by increasing the distance between the pairs, so that it may average about four feet. Each bed therefore occupies a space in the length of the ward of seven feet, consequently a ward intended for fifty beds—twenty-five on a side—would be $25 \times 7 = 175$ feet, the length of the ward. A ward therefore of these dimensions ($25 \times 175 \times 14$) contains 60,250 cubic feet, or 1205 cubic feet to each of the fifty patients.

"These dimensions are the very lowest which should exist in the wards of permanent hospitals in any part of the United States. Every patient in such institution should receive, as a *minimum allowance*, 1200 cubic feet of space, about 87 of which should be superficial. If less than this is allotted to him, an offence is committed against the laws of human health, which can only be excused on the ground of absolute necessity.

"In temporary hospitals, ventilated at the ridge and furnished with a sufficient number of windows, less than this will suffice, provided they are built after the plans which have been shown to be most advantageous to the sick and wounded who are to inhabit them; and consequently in such wards the length need not be so great as in those of permanently built hospitals. In these ridge ventilated wards, of the same width as the others and the same average height, the mean distance between the beds need not be more than two and a half feet; $25 \times 5\frac{1}{2} = 137\frac{1}{2}$ feet, the length of a ward intended for fifty patients. Such a sized ward contains 48,125 cubic feet, which is about 960 to each patient.

"This is the basis upon which all temporary hospitals should be constructed, and although, from the necessities of the service, it may often be impossible to give to each inmate as much space as the requirements of sanitary science demand, he should receive it without fail as soon as the exigency, which has caused a reduction in his allowance of space, has ceased to exist."

"As has been said, the mean height of a ward should not be less than fourteen feet, and it is upon this, as a standard, that the cubic space per patient is to be apportioned. It will not answer to make the walls high and to curtail them proportionally in the other dimensions, for after the height of fourteen or fifteen feet is attained in a ward, the air of any space above that is of very little practical benefit to the patient. It is by no means impossible to produce sickness in well persons by crowding them together in the open air, where the number of cubic feet of air to each is only limited by the height of the atmosphere above the surface of the earth. The number of square feet to a patient, in a ward fourteen feet high, should not, in permanent hospitals, be less than eighty-five, nor in temporary, ridge ventilated wards, less than sixty-five feet.

"The windows of a ward should be of ample size, certainly not less than five feet in height. The number should be determined by the size and capacity of the ward, one being allowed for every two patients."

The plans of the General Hospitals at Fort Schuyler, Point Lookout, Chestnut Hill, and many others, are given in much detail. Like American ideas, those plans are expansive and quite untrammelled by foreign examples. To think of fifty pavilions—each 175 feet in length—arranged tangentially in radii from the periphery of an ellipsoidal court-yard, and there connected by a corridor nearly half a mile in length, which is the outline description of the Monroe Hospital at Chestnut Hill, must awaken some astonishment abroad, where the Titanic magnitude of our war for the Home of Freedom is yet imperfectly appreciated. We most admire the best of these hospital plans for their

ventilation and generous allotment pro rata of air-space to the patients, and for the breadth of ground they occupy. And it may be pardonable for a civilian to offer a criticism upon all the larger hospital plans given in this volume: They are *too large*. The aggregation of 2,000 or 3,000 patients upon such limited areas, even under favorable conditions for local drainage and external ventilation, will inevitably, after a number of months, induce endemic or localized conditions of insalubrity that will certainly increase the average period of recovery of the patients as well as augment the ratio of mortality. Though war creates military necessities, its successful issue is so truly "a problem of sanitary science" that the question of life-saving is paramount to all others in the medical department of the army service. It has been well stated by the British Military Hospital Commission, that "it should never be forgotten that the object sought in the construction of a hospital is the recovery of the larger number of sick men to health in the shortest possible time, and that to this end everything else is only subsidiary."

Various statements respecting locality, altitudes, and climate, which we find in Dr. Hammond's chapters upon those subjects, warrant the belief that he is fully alive to the advantages that would be derived from the distribution of certain classes of the military patients to hospitals located at higher altitudes and in a drier atmosphere than at the tide level where the principal hospitals have hitherto been located. And in such improved locations we believe the administration will be found more economical, the death-rates lower, and the average period of hospital residence shorter.

The chapter on field-hospitals is exceedingly valuable, but too brief. Surgeon Vanderkief's, in the oak-openings beyond the Antietam, is justly referred to as "a model for such establishments." We have preserved the statistics of the surgery in that and some other hospitals under canvas upon that bloody field, and never in civic hospitals do we expect to witness such favorable amputations, resections, and terrible wounds. Dr. Hammond strongly recommends that hospital tents or huts, when aggregated, should be arranged *en echelon* as a means of insuring the best ventilation.

Passing the chapters relating to the *lighting* and *warming* of hospitals, in which all is practically and clearly stated that concerns these important matters, we would quote largely from the most excellent chapter on *ventilation*, but like the sections which follow relating to *camps*, *food*, and *alimentary principles*, *physiological relations of food*, *compound aliments*, etc., we would cordially recommend every army officer to peruse these last chapters of the treatise first, for they are fullest of interest and practical suggestions. We cannot forbear the following brief quotations relating to heating, and to ventilation respectively, as illustrating the emphatic and definite opinions of the enlightened author. Speaking of the fashionable subterranean hot-air furnaces, he states:—

"It is only necessary to allow a piece of polished silver to stand for a few days in a room warmed in this manner to be convinced of the presence of the vapor of sulphur in the atmosphere, as the silver very rapidly becomes tarnished by the formation of the sulphuret. I have also caused the warmed air to pass through Liebig's potash-bulbs, and have always found an excessive amount of carbonic acid to be present, and yet I have seen educated persons, or those who from their position in life ought to have known better, crowd themselves, to the number of five or six, into a room scarcely fifteen feet square in which there was no window, in which two gas burners were lighted, and with the doors shut, crouch over a flue from a red-hot furnace through which air hot enough to parch the skin was being discharged with horrible rapidity. Should it be a subject for surprise that such persons were annoyed with coldness of the extremities, and were haggard and ghastly-looking in the morning, and that they were afflicted with almost constant headaches, dyspepsia, and other affections

evincing disorder of the organism? As used in this country, hot-air furnaces, I have no hesitation in saying, are productive of more disease and discomfort than are caused by all the other means of producing artificial heat combined."

And respecting the amount of fresh air-supply to meet the physiological requirements of respiration, Dr. Hammond brings forth the following statement, which corresponds with the standard that our own observations long since led us to establish in the management of hospital wards.

"Thus Vierordt fixes the amount at 2½ cubic feet per minute, Dr. Reid at 10 cubic feet, and Dr. Arnott at 20 cubic feet. The first of these is undoubtedly too low, and the last cannot be considered as at all too high. From the nature of the problem to be solved, and from the many influences in operation capable of affecting the result, it is extremely difficult, if not impossible, to arrive at exactness. It may, however, be safely affirmed that, in a ward in which 1200 cubic feet of air are allowed to each patient, this amount should be entirely changed in each hour at the most, and this would require the admission of 20 cubic feet per minute for each patient. An allowance of 30 to 40 cubic feet per minute would, however, be far preferable. The object should be to render the atmosphere of the ward, as nearly as possible, similar in composition, as regards carbonic acid, aqueous vapor, and organic matter present, to that of the external air."

The closing chapters of the treatise treat especially of the alimentation and clothing of the soldier. Like all that precedes these subjects they are treated with reference to the practical questions and necessities of army life. The volume itself is a sort of epitome, as we imagine, of the first year's official duties of the Chief of the Army Medical Bureau. Indeed, this opinion is warranted by a casual remark in the preface, where the author says:—"There was no work then to which I could refer those who came to me for information; * * * and as I had for several years given a large portion of my leisure to the study of hygiene, * * * I concluded to devote the hours which would otherwise have been passed in rest, in preparing a volume upon the more important subjects belonging to the science of hygiene, especially those that have a bearing upon the military service."

Of this work, which, to say the least, should command the grateful appreciation not only of public hygienists, but of the National Government, the author states, "It is not pretended this volume is complete. There are several subjects other than those considered, such as Occupation, Exercise, the Excretions, Marriage, Celibacy, etc., which I would have been glad to have taken up, had I not been convinced that the need for some work on sanitary matters was imperative."

This patriotic and noble motive for preparing the treatise is most appropriately and beautifully testified in the dedication of the volume to Dr. Wm. H. Van Buren, whose eminent position and distinguished labors in the medical profession, and in the United States Sanitary Commission, are thus appropriately recognised by his former pupil. And it is no trivial encomium upon this book to say that the style, scope, and subject matter of its well digested chapters, its advanced status in scientific as well as severely practical arguments and statements, together with the superior typographical execution and illustration of the volume, are in every respect worthy the distinguished position and repute of its author. It is a book that must make its way into every physician's library, and which will be demanded in every medical class-room; and its future and enlarged editions, or supplementary volumes, will be earnestly looked for by all the cultivators of sanitary science.

ERRATUM.—The writer of the review of Dr. Hammond's treatise requests a correction to be made in the first paragraph from the bottom of last column, on page 163, in last number of this Journal. The words *cubic inches* are to be substituted for *cubic feet*, wherever the latter words occur in that paragraph.

He adds the following facts: It will be observed that the experiments of Dr. Hammond and Dr. Angus Smith, have unequivocally demonstrated the fact, which has been believed upon rational grounds, that deleterious organic and putrefactive matter rapidly accumulates not only in crowded apartments but in unventilated and damp places. The following table gives some of the results of Dr. Smith's tests of the atmosphere of various localities, with reference to ascertaining the absolute proportion of such noxious matters liable to be respired in those places:—

	cub. in.
1. Air at All Saints inside the laboratory 1 grain in	72,000
2. Front of the house	74,000
3. Behind the laboratory	60,000
4. Bedroom looking to the back	64,000
5. Same room in the morning after being slept in	56,000
6. Front of laboratory again	76,000
7. Back of the Medlock behind dirty houses	44,000
8. St. Michael's-place behind a house	8,000
9. Inside a house at St. Michael's-place	16,000
10. The front of the house	40,000
11. High grounds 30 miles north of Manchester	209,000
12. Closely packed railway carriage	8,000
13. When the strong smell of a sewer entered my laboratory	8,000

"Leaving out the three cyphers, we have a range of from 8 to 200, and I feel assured that we may go much lower than 8, as I entered no spots which were very revolting."

"The air of ash-pits, or rather of middens and cesspools such as the repositories of faeces essentially are in Manchester, was tried, and gave

grs.	cub. ft.
1. 1 of organic matter in	62.2
2. 1	62.2
3. 1	58.9

"We have in different air breathed by people in the same county, a substance the amount of which in one case is 22 times greater than in the other, and in air breathed by people in the same town a difference which is as 9 to 22.

"These differences are not greater than are required in order to enable us to account for the numbers which represent the deaths of the various districts. In the district in which the highest numbers here given were obtained, there were, in 1855, 4.5 deaths in a hundred, whilst the average is 2.2 for the country."

Such facts require no comment, but they are exceedingly instructive.

Army Medical Intelligence.

ORDERS, CHANGES, &c.

Surgeon J. Owen, U.S.V., has been dismissed the service of the United States.

Surgeon Madison Mills, U.S.A., has been relieved from duty in the Department of the Tennessee, and assigned as Medical Director to the Department of the Missouri.

Surgeon Josiah Simpson, U.S.A., Medical Director, Middle Department, has been ordered to visit and inspect in hospitals and elsewhere, such officers and soldiers belonging to regiments on duty in the Middle Department, as are reported at those Headquarters, "absent sick," beyond the expiration of their furloughs. He will designate to Provost-Marshal those fit for duty for immediate return to their regiments, and provide the necessary certificates of disability for discharge or transfer to the Invalid Corps, in cases requiring such action. All officers and men designated as fit for duty will be immediately sent to join their respective regiments.

Seven hundred wounded rebel prisoners have been ordered from Chester, Penn., to Point Lookout, Md.

A person, calling herself "Mrs. Major Gage, Surgeon U.S.V.," has been representing herself to Surgeons in charge of hospitals in the North, as holding the President's commission as such, and demanding quarters, fuel, &c. It is needless to say that no such person is known or recognised by the Medical Department.

Original Lectures.

CYANOSIS.

BEING REMARKS MADE IN THE DISCUSSION OF DR. LEWIS
SMITH'S PAPER AT THE STATED MEETING OF THE
N. Y. ACADEMY OF MEDICINE, HELD
MAY 14, 1868.

By A. JACOBI, M.D.,

PROF. OF DISEASES OF CHILDREN AND INFANTILE PATHOLOGY AT THE
N. Y. COLLEGE AND CHARITY HOSPITAL, N. Y.

I CLAIM that the profession is under great obligations to Dr. Smith for having prepared his paper. Medical publications have been replete with single cases of Cyanosis for twenty-five years past, but complete reviews of a large number of cases have been very rare. It is true that some such are to be found in text-books and some in medical journals, but the collection of cases made by Dr. Smith is, as far as I know, as great in number as can anywhere be found. Dr. Smith is modest enough to excuse himself for writing such a paper, but when we still see in one of the latest books on diseases of children, Dr. Tanner's, that it is laid down that the cause of cyanosis is the patency of the auricular septum, there certainly is call enough for such a paper as that which we have come together to discuss.

There are parts of the paper of such excellence that I deem it altogether unnecessary to use up time in going over the ground again. I wish, however, that I could say the same of those portions of the paper which treat of the definition of cyanosis, and its etiology and pathology.

First, the Dr. says that "cyanosis is actually a blood disease;" that "its pathological state may be expressed as follows:—Blood venous in character in the arteries as well as veins. It would be better did its name express its nature, as in leucocythemia, but medical nomenclature is generally defective. A symptom or appearance is often selected as a name, and no harm is really done, provided we are not led into the belief that this symptom or appearance is the disease itself." This then would be my first objection to the paper, that cyanosis is taken as a disease, the true character of which is due to nothing save the condition of the blood. In another place the Dr. says that "there seems to be a tendency on the part of some to ignore cyanosis as a disease:" if that is a tendency really manifest, I believe it to be a very good one.

The Dr. gives 14 distinct malformations which are capable of causing cyanosis, and besides, mentions other conditions capable of inducing it, such as overloading the stomach, violent exertion, etc.; and finally, on page 316, he details the causes of death in cyanosis, which it must be admitted are very variable. We have in this catalogue, dyspnoea, convulsions, apoplexy, hæmorrhage, phthisis, exhaustion, coma, cerebral irritation, effusion into the cranial cavity, thoracic inflammation, diarrhoea, scarlet fever, croup, and so on, and so on. Now I believe that when we have fourteen malformations, every one of which may be the cause of cyanosis and a number of other diseases, which may be the cause of death, we have no right to look upon cyanosis as a disease *per se*. He says: "It would be better did its name express its nature, as in leucocythemia," etc. Now the term leucocythemia means nothing but white-bloodedness: it is simply a condition in which the normal relation between the red and white corpuscles is changed in a certain manner. There are now, too, two varieties of this same leucocythemia, which it has been found necessary to make, in order to express the precise condition of things which exists with this symptom (for it is only a symptom), viz. the splenic and the lymphatic. Therefore, Dr. Smith's comparison is not tenable. During the last century the diagnosis of a case was considered as made when it was called dropsy. Nowadays none of us would make such a diagnosis; we would be ashamed to do so better.

AM. MED. TIMES, VOL. VII., No. 16.

There are a number of cases of cyanosis that terminate fatally within a very short time, and though during life we may call it cyanosis, we will find after death that the cause had been either lobular pneumonia or atelectasis. We then have it proved to us that cyanosis was but the symptom of the protracted difficulty that existed. Thus, in my opinion, the attempt on the part of Dr. Smith to prove that cyanosis is a new disease, is only an evidence of a retrograde movement in medicine.

As our object in the discussion of any subject is to arrive at the truth by the free expression of opinion, I shall take the liberty of alluding to what I consider the weak points of the paper. One of the weakest points in the paper is that which treats of the etiology of the disease. The Dr. says:—"The cause of the malformation on which cyanosis depends is wrapt in much obscurity. Sometimes mothers attribute it to strong mental impressions felt during utero-gestation. The mother of a patient treated by Dr. Peacock stated that, 'two months before her confinement, she was frightened by seeing a child killed, and never recovered from the shock she sustained.' In another case 'the mother was much out of health, and stated that, when pregnant with the child, she was greatly alarmed by seeing a man who was dying of asthma.' In another instance the mother was frightened at the fifth month of pregnancy; and in still another case, recorded by Dr. Peacock, the mother, four or five months before her confinement, 'was greatly alarmed by her husband, who was insane, standing over her for two hours with a loaded pistol.'" Now it would be better for Dr. Smith, before he gives credit to, or barely mentions such causes, to go a little into the study of embryology. It is not necessary to go into this subject to any great extent to know that first there is a period of development in which there is no septum whatever, either in the ventricle or auricle. The formation of this septum belongs to the first few months of foetal life: the formation of this septum is sometimes not complete, and sometimes differs a little as to its position. When the auricular septum is not complete, we have the foramen ovale remaining open, or we have no septum, or we have, in the case of the ventricular septum remaining open, a perforated septum ventriculorum; or we have no pulmonary artery, but only an aorta, and so on. As to their position, the septa may be found either too far to the right or to the left, and thus give rise to the abnormal origin or transposition of blood-vessels. Where the auricular septum is found too far to the right, the inferior v. cava is found to discharge its contents into the left auricle. Where the ventricular septum is found too much to the right side, the pulmonary artery originates from the left ventricle, or from both the right and left. Where the same septum is found more to the left, the aorta originates wholly or partially from the two ventricles. In this case there may be also a vicious development of the ventricles themselves. The third period of foetal development must be considered as directly introductory to later life: the v. cava inferior moves to the right, the valve of the foramen ovale fits the margins of the foramen, the former aorta ascendens is transformed into aorta, the descendens into pulmonary artery, while the ductus arteriosus Botalli decreases in size. Where the vena cava inferior does not extend sufficiently to the right, the valve, being only a duplicate of the living membrane, does not cover the foramen entirely; it then remains open. Where, however, the reverse position takes place, the foramen will close too early.

At this period, also, must be sought the first occurrence of atheromatous degeneration and incompetency of the valves, with or without either contraction or dilatation of the orifices; also, a number of anomalies in the character and size of blood-vessels, especially the pulmonary artery. There are two anomalies in its case, which have frequently been confounded with each other: the obstruction or contraction of the conus arteriæ pulmonalis, which is very frequent, and the contraction of the ostium. The latter will result from nothing but inflammation and contraction of

the valves, and their ring of insertion. The former, also, must not be taken as a simple arrest of development, but as the result of an inflammatory process. Simpson already believed in inflammation as the cause of these arrests of development; Bouillaud attempted to localize inflammation in the lining membrane, thus attributing those anomalies to endocarditis; and, finally, Dorsch has proved to my satisfaction that the conus arteriosus of the right side is principally due to inflammation of the muscular substance, myocarditis proper. When this process takes place in very early foetal life, its residues may disappear, nothing being visible afterwards, except either a very narrow slit or complete obstruction of the pulmonary artery. In the majority of cases, however, a hard and dense tissue is found, a cicatrix of fibrous tissue, indicating the last stage of the process. It is true that no recent case is on record, but only such in which the process has run through its full course. But this fact is easily explained by the other fact, that this inflammatory process includes very little, if any, danger for the continuation of foetal life to its normal termination, thus depriving us of every opportunity of seeing a case in its first stage. It is but natural that, by the described anomaly, the development of the conus arteriosus is arrested; at the same time the foramen ovale is kept open by the blood being not expelled with sufficient ease, and the valves of the pulmonary artery, and the artery itself, remain delicate and small. At the same time, and from the same cause, the formation of the ventricular septum is interfered with—I speak of that early period in which the formation of this septum is barely commenced with—and the aorta will be found to originate from the two ventricles at once. This anomalous origin of the aorta results in the necessity of its supplying and controlling, in later life, both the large and the pulmonary circulations.

What do we know of the remote causes of all these anomalies depending on myocarditis? Very little indeed; not more, in fact, than of the remote causes of the majority of other diseases in extra-uterine life. But it may be noticed as a remarkable fact that, almost without exception, the malformations of the heart of the new-born, of whatever nature, are found in its right side. This fact must be explained by the physiological action of the right heart, which by far exceeds that of the left, from the well known laws of foetal circulation. Thus, I have no other explanation to offer but this:—That the cause of morbid changes and functions must be sought for in its physiological over-exertion. Whatever organ or part of the system has to make the greatest efforts, to undergo the greatest exertions, is always most apt to exchange its physiological condition for a pathological one.

I cannot leave the subject without alluding to the several theories proclaimed as the true explanations of every one of the numerous cases of cyanosis, viz:—

1. Obstruction of venous circulation.
2. Mixture of arterial and venous blood, and
3. Want of oxygenization.

I claim that not one of these theories suffices to explain every single case of cyanosis. It will be readily understood that a single exception to a rule proclaimed as general, would reverse the assertion of uniformity in the cause and character of cyanosis.

It is true that many cases of cyanosis originate in venous obstruction depending on overloading the right heart, or at least it can be said that in many cases this obstruction and even enlargement of the veins can be found. This was especially distinct in the case of a cyanotic child who died at Ward's Island, some five years ago, at the age of five years. It was a case of absence of the pulmonary artery, the aorta originating in the two ventricles. I owe to the kindness of Dr. Simrock, then a resident physician of the Emigrants' Hospital, the specimen, together with some notes concerning his ophthalmoscopic examination of the retina of the patient, made some time before death. He says:—"The ophthalmoscopic examination of the eyes of the cyanotic child revealed an enormous but equally dis-

tributed dilatation of all the veins of the retina, to such a degree that up to the most peripheric ramifications their width appeared to have doubled, and even more. In short, their calibre was so much enlarged that I have never seen its equal or similar. The arteries of the retina were of the normal size. The retina appeared a little more red than usual, but could not be termed cyanotic, as it showed nowhere the least bluish tinge; nor was the color of the veins blue, but of a dark reddish tinge. No pulsation of the vessels of the retina could be seen, unless artificially produced. Otherwise, the condition of the retina in both eyes was normal. The vessels of the choroid could not be perceived."

But there are a number of cases of congenital contraction of the pulmonary artery in which no cyanotic hue was perceptible during life. Nor do we know else but that in common cases of overloading of the right heart, local congestion, and hemorrhages, or anasarca, or diarrhoea, and the other symptoms of intestinal catarrh, or varicose dilatation of the hemorrhoid veins, or headache, etc., according to the locality and power of venous obstruction, all these symptoms are found rather more frequently without than with cyanosis. It has been stated, however, that the slowness of circulation in the newly born is such as to give rise to cyanosis before dropsical symptoms can set in. This is not so. We all know the slowness of circulation in an attack of syncope; the surface is pale, but not in the least cyanotic. And the single case of Duchek's, of an infant of three days suffering from all the symptoms of general dropsy, in consequence of disease of the right heart, without being cyanotic, would reverse the plea of slow circulation.

Further, the theory of the admixture of arterial and venous blood, supported by Gintrac, Corvisart, Gendrin, Aberle, Hope, etc., is not applicable to all the cases of cyanosis. There is the case of Bresschet, in which the subclavian artery originated directly in the pulmonary artery. In that instance the arm was supplied with venous blood, but yet there was no local cyanosis. There is another case of Rees, where the abdominal artery originated in the pulmonary artery, but nevertheless there was no cyanosis in the corresponding locality. This is a strong argument against the second theory. And, furthermore, we know that in the foetus there is a constant commingling of what may be called arterial and venous blood, and nevertheless there is no cyanotic hue on the surface of the foetus. Again, we have the cases reported by Bizot, Rokitsansky, and many others, of large openings in the auricular septum, and no cyanosis. Lacroix found an opening of the size of a five-franc piece, and no cyanosis; Zehetmair found a heart without a ventricular septum, and no cyanosis. I take the liberty of here showing part of the heart removed from the body of a woman of about 50 years, in the dissecting-rooms of the New York Medical College. There are two openings in the auricular septum, one one-sixth, the other one-fourth of an inch in width, and no cyanosis. But I state at once, that the openings are oblique, and were certainly closed by the bilateral pressure of the blood during the systole of the heart.

The question is—How such a mixture could go on at all? Generally, whenever the foramen ovale was found open, or a deficiency in the septum of the ventricle, it was taken for the full cause of cyanosis; but as far as the foramen ovale is concerned, I have to state that in 1000 cases of post-mortem examinations but 440 were found to show some perforation of the foramen ovale, and in none of these 440 cases was there cyanosis. There are a number of cases in which the foramen ovale was an inch large in the adult, and yet there was no cyanosis. There was no cyanosis in cases where the ventricular septum had a perforation of one-quarter to one-half in diameter. How is this? It simply shows, that the contraction of the two sides of the heart is simultaneous—each one of the two has the same amount of work to perform, and consequently the different currents are not disturbed. If, however, the amount of contraction

is unequal in consequence of valvular diseases, or hypertrophy of one side, this equilibrium is not kept, and we accordingly have a commingling of two currents.

In consequence of the many objections to the universality of the mixture theory, it has been given up by the majority of medical writers. They followed the same erroneous impression which prevails in Dr. Smith's paper, that, necessarily, there must be a common essential cause to all the cases of cyanosis. With the same reason you would have to look for one and the same anatomical cause in different cases of anasarca, or diarrhoea, or hæmorrhage. In order to show how wrong they are, and how little Dr. Smith's theory will stand a thorough examination, I present a specimen taken from an intensely cyanotic girl of five years. In this heart, which is of normal size, the two ventricles are of nearly the same size; the right auricle is but the common sac for the normally developed veins. The pulmonary veins are fully developed, showing that they have always been swelled with a normal amount of blood. There is not a single abnormal valve, every one being competent. The aorta is very large up to the arch, and originates in the two ventricles; its valve is competent. Its size diminishes in the same degree as it sends off a large number of large bronchial arteries (in the specimen you count twenty-two); which have to supply the lungs with blood in lieu of the pulmonary artery, which is too small to carry more than one-fifth of the normal amount of blood, but is normal otherwise. The numerous and large bronchial arteries are evidently fully sufficient to supply the lungs. The size of the pulmonary veins, moreover, proves that they have their full duties to attend to. There is no symptom of overloading of the heart; there is, in fact, nothing which "prevents the free and regular flow of blood to, through, and from the lungs." And yet there was the most intense cyanosis I have ever witnessed. After having examined this specimen repeatedly and scrupulously, and submitted it to the most critical examination of medical friends, as I herewith do to yours, I claim it as a proof of my assertion, that this was a case of cyanosis depending on the mixture of arterial and venous blood. Thus I wish you to dispose of those who gave up the mixture theory because it did not explain every case, and selected another not more satisfactory; and also of the theory of Dr. Smith, who says, that "cyanosis is due to vices, or defects in the organism, usually congenital, which prevent the free and regular flow of blood to, through, or from the lungs." When we think of the large number of bronchial arteries supplying the lungs, and of the numerous collateral ramifications from the intercostal and internal mammary, which assume the same function by taking the place of the pulmonary artery—vessels which Dr. Smith kindly believes to be generally overlooked by other anatomists—and further, when we bring into account the usually normal size of the pulmonary veins,—all of which you will also perceive in two other specimens I have with me: Dr. Smith's theory is simply reduced to the old theory of Billard, Hunter, Sandifort, Nevin, and others. This theory explains every case of cyanosis by deficient oxygenation, no matter whether the local cyanosis depending on local compression of veins could be explained by this theory or not; nor that the fœtus is not cyanotic, although greatly inferior in the amount of oxygen contained in the materno-fœtal blood.

It is true that the majority of malformations cyanosis is found with, fall under the head of Dr. Smith's theory. But if his theory was the right one, we ought to see cyanosis in every case where circulation to, through, and from the lungs is effectively interfered with; thus, in every serious case of pneumonia, particularly when bilateral, emphysema, and a number of valvular diseases. This, however, is not so. Thus the theory of Dr. S. is inconsistent with true pathology for two reasons: 1stly, because there are cases of cyanosis which evidently have other, and distinct causes; and 2ndly, because in many cases in which the anatomical condition required by his theory is present, there is no cyanosis.

I say again, that any theory which is to yield a universal explanation of, and to be identified with cyanosis, must not allow of a single exception. Every single case explainable by other causes diminishes, or rather destroys the probability or possibility of its being the true theory. And thus, as hitherto, we shall have to explain the symptom called cyanosis, sometimes by an obstruction of circulation, sometimes by the mixture of arterial and venous blood, sometimes by deficient oxygenization, and at other times by a complication of two or more of these causes. It may even happen that we have to call in other, more subordinate causes. Who, for instance, can tell whether or not the deficient nutrition of the nervous system, and particularly of the pneumogastric and sympathetic nerves, resulting from the mixture of arterial and venous blood, may not bring on a retardation of peripheric circulation without the presence of a mechanical obstruction?

Medical science has long attempted to become free from terms indicating a symptom or a complex of symptoms, which formerly assumed the dignity of diseases in the vocabulary of pathological anomalies. Where we are enabled to arrive at an anatomical diagnosis, we do not make use of such terms. Thus many a case which formerly would have been called cyanosis in a newly born, is at present congenital pneumonia, or atelectasis, or incompetency of a valve, with cyanosis among the accompanying symptoms. In the same manner we do not diagnose drowsy, but a distinct cardiac disease, or fatty degeneration of the kidneys, or cirrhosis of the liver, etc., with drowsy among the symptoms.

I claim, then, cyanosis as a common symptom of a number of different anatomical lesions, either congenital or acquired, and deny its essentiality as a disease *per se*.

Original Communications.

IS ANTE-FLEXION OF THE UTERUS,

WITHOUT LEUCORRHEA OR ENGORGEMENT AND ULCERATION,

A PATHOLOGICAL STATE

REQUIRING SPECIAL REMEDIAL TREATMENT?

By S. OAKLEY VANDERPOEL, M.D.,

OF ALBANY, N.Y.

OF late years a great impulse has been given to the progress of uterine pathology. The study of the ovum and its development has been greatly perfected, while the improved methods of exploration have enabled pathological states to be readily and promptly recognised. It is, however, in the observation of organic lesions and their remedial agencies that the greatest progress and true amelioration may be said to be attained. The boon to humanity conferred in this study by a few earnest, noble men, we consider inestimable. In acknowledging fully this obligation, let me not be misunderstood if I criticise strongly that disposition, I might say *fashion*, now so prevalent in the profession, to see in every ailment which the female presents a *uterine* disease, and find in every accidental condition which the uterus presents, upon an examination by the speculum, the *fons et origo* of all her ailments. So fashionable is it, that nearly every village, certainly every water-cure establishment, has its doctor who dexterously uses the speculum, and who faithfully applies his caustic to the inflamed follicular surface of the cervix with the same industry that a few years since it was applied to the fauces, to neither of which would any permanent benefit result unless at the same time the depraved condition of the general system was improved.

Progressing on this one-idea theory, the different accidental positions of the organ have been persistently treated; some employing the ingenious contrivance of the stem pessary and its resulting tortures; others, the daily

straightening the uterus by introducing one finger into the vagina and another in the rectum or over the pubes, according to the nature of the deviation. It seems hardly credible so absurd a process as this latter should be gravely pursued. We certainly have more respect for the man who administers his infinitesimal dose of oyster-shell than for the one who will for weeks practise this latter upon his confiding patient.

It is the object of this paper to inquire how far one of the most commonly assigned deviations, viz. "simple ante-flexion of the uterus," without engorgement or ulceration of the cervix, and without any leucorrhoeal discharge, may be considered a pathological condition demanding special remedial appliances. We answer, a condition of the organ presenting the above characteristics does not require special remedial appliances. Further, that when presented in a patient with enfeebled system, she will recover equally well without them; that, when recovered, the vicious condition of the organ may continue without inducing disturbance, or in any way affecting the general health. According to careful researches of M. Soudry, conducted under the supervision of M. Barthez of Paris, ante-flexion may be considered almost the normal condition prior to puberty. Twenty-three per cent. of those examined presented this condition of the organ. It becomes less and less frequent after puberty, and disappears where pregnancy has occurred. This condition, then, so constant in early life, should not excite surprise if discovered in the female who has never been pregnant. M. Aran explains this state as follows: "This ante-flexion of the uterus has really nothing mysterious or difficult to understand; it is nothing more or less than the result of pressure exercised during foetal life by the abdominal viscera upon the still soft and little resisting part of the uterus; that is, upon the body, when that organ is still inclosed in the abdominal cavity proper." If, then, ante-flexion prior to puberty may be regarded rather as the normal state, surely its presence after this period, where no conception has occurred, and where no indications of suffering of the organ, as indicated by engorgement or ulceration of the cervix, or uterine leucorrhoea, present, need not be considered a pathological state demanding special remedial agents. Rather should it be the aim of the physician to foster that instinctive delicacy, the charm and attraction of the sex, than by daily manipulation blunt the finer elements of her nature.

We have, in addition, the testimony of late writers upon this subject; M. Aran, in his clinical lectures on "Maladies de l'Uterus," says: "Flexions of the uterus have not, in general, as unhappy an influence upon the health as many other uterine affections. Many females carry them all their life without notably suffering therefrom. Some appear more innocent than others, such as *ante-flexions* and *latero-flexions* of the body of the organ; the different flexions of the uterine neck—"

Scanzoni, than whom a more careful and truthful observer, or a more clear and concise delineator, has not written, says: "In the commencement of our practice we were ourselves of the number of those who, as Kiwisch, Mayer, Simpson, Valleix, and others, could not too highly estimate the baneful influence of *flexions* upon the whole constitution of the sufferer. We avow even that it is not without difficulty to renounce an opinion which even to this day has been considered by a great number of our most illustrious confrères as one of the greatest advances of our science. Nevertheless, in view of so great a number of facts proving the contrary, it has been impossible not to change our opinion. So that now we are convinced that *flexions of the uterus do not acquire any importance, are not followed by serious dangers, except when they are complicated with some other alteration in the tissue of the organ.*" It is not of course necessary to enumerate the reasons by which this conclusion is reached.

One point, however, cannot but have struck every practitioner. After rising from the perusal of the careful descriptions given of the different forms of deviation of the

uterus, and profoundly impressed with the necessity of exerting all his skill and energies to their correction, when presenting in his practice, yet in his daily experience he is constantly reminded of the *perfect indifference*, so to speak, of position which the uterus takes in the pelvic cavity, while the individual is in this part without suffering, or any manifestations of a morbid condition. Sometimes the cervix is almost in the vulva; again, resting on the floor of the vagina, tilted to the pubes, or inclined to either ilium. Shall we arbitrarily assume these as morbid conditions, and place our patient, unconscious of any such state, under specific treatment? Yet such, we fear, is too much the tendency of the day. If innervation be at fault, from imperfect assimilation, and a relaxed tonicity of the muscular system follows, the uterus, through loose attachments and elastic ligaments, is among the first organs to show it by some deviation, yet without any positive exhibition of suffering from the organ itself. Such cases, we contend, do not require local treatment. The uterus, by all appliances, either local or derivative, will never assume its normal position until the tone of the general system is rendered healthy. This accomplished, there will be no call for further local manipulation.

To us it seems absurd to argue against the necessity of either derivative treatment or local manipulation for a simple ante-flexion, without any accompanying signs of suffering in the uterus, did we not know that it was deliberately advised and acted upon. We have seen ladies who, almost daily for three months, were subjected to manipulations for straightening an ante-flexed uterus with the finger; others, anæmic and with deficient innervation, subjected to issues for the same purpose. In either case it was not pretended but that the ante-flexion had existed a long period; if so, the tissue of the anterior wall must be condensed, and that of the posterior extended. Would any such measures produce an equilibrium between them? Analogical reasoning shows its futility.

If suffering does result, and which we do not deny may and does occur, it will be manifested in some manner by the organ itself. Then the treatment of supporting the uterus by some form of stem pessary, would seem the only one from which benefit could be expected. Comparatively few, however, can tolerate them, and our experience has been that patients leave the hands of those who have specially treated them for this affection no better in this respect than when the discovery of ante-flexion was first made.

We have been drawn into the foregoing train of thought from the *fashionable* prevalence of viewing every disease of the female of *uterine origin*—of studying that whole system of harmonies from a single stand-point, and attempting from that to comprehend the whole.

Much as we extol and commend the principle in some departments of the profession, of devoting the time and energies to a single branch, there are others in which it degenerates to a one-ideaism, and belittles rather than enlarges the domain of our science. To such tendencies we must enter a stern protest. While the uterine system is the starting-point from which sympathetic suffering radiates over the whole system, it is quite as often but secondarily implicated. It should be the duty of the honest interpreter to give such condition its true significance, not unduly elevating a slight pathological condition into an explanation for long continued and severe sufferings in other organs.

Sept. 30, 1863.

M. DEBOUT says that sugar is an excellent destroyer of worms. He once accidentally put sugar instead of salt on a leech which he wished to detach from the skin, and was surprised at the spasms produced by it. He therefore tried sugar on earth-worms, and found it had a similar powerful effect; and has since used it in solution with success as an injection in children.—*Brit. Med. Jour.*

REMOVAL OF BROKEN CATHETER

FROM BLADDER.

By SURGEON C. S. MUSCROFT.

MEDICAL DIRECTOR, U.S.A.

JACOB SHEETS, a corporal of Co. I, 101st Ohio Vol. Inf., was admitted into one of the hospital depots of the 3d (Maj. Gen. Rosecrans) Division, 14th Army Corps, in the Dept. of the Cumberland, on the 1st day of January, 1863, having been wounded on the day previous by a ball (supposed to be a minié) at the battle of Stone River.

The ball entered from behind at the inferior border of the gluteus maximus muscle an inch and a half to the right of the mesian line, and passed obliquely forward and upwards, wounding the urethra in the posterior third of its spongy portion; then making its exit at the superior portion of the scrotum half an inch to the left of the raphe, it having passed through the superior third of the left testis. When the patient was first admitted, his penis and scrotum were enormously cedematous, with ecchymosis extending above, over nearly the whole of the hypogastric and iliac regions. When he attempted to urinate, the water flowed freely from the wound anteriorly; consequently he had voluntarily retained his urine for twenty-four hours. A silver catheter was now introduced, and the contents of the bladder evacuated, after which a gum elastic catheter was substituted, and left in the urethra, being confined there by suitable dressings. The catheter was so arranged as to conduct the urine into a glass bottle. Compresses wet with cold water were applied to the inflamed parts.

Jan. 3d.—The scrotum appeared nearly the same as on the first, except that it was softer and fluctuating. The penis was still swollen, discolored, and cedematous. Two incisions were made through the covering of the testes into the sac of the tunica vaginalis. The discharge of pus and fetid urine was abundant.

Jan. 5th.—The ecchymosis in and about the penis was much diminished, but a portion of the scrotum was evidently gangrenous. A line of demarkation had formed on the seventh, and on the tenth had separated, leaving the testes bare to the extent of nearly the whole of their anterior surface.

Adhesive straps were then applied to the remaining integument of the scrotum, drawing the edges together as near as possible, to form an anterior covering.

About this time the urine became loaded with sediment, leaving a light colored gritty deposit on the end of the catheter which protruded into the bladder, also filling the whole of the length of its tube, preventing the passage of urine.

This was removed, and another introduced. In three days, it became filled with deposit in like manner to the former one, and another of smaller size (which was the only one at hand at the time) was introduced.

On the following morning (the 25th) I was called to see the patient, and found that the catheter had been broken off about midway; the distal end, which was the longest, having fallen out of the urethra, the other remaining in, the outer end of which could be distinctly felt with a probe.

In this emergency I called upon Surgeon C. S. Muscroft, the Medical Director of the 3d Division, who readily responded, bringing with him a long, straight, narrow bullet forceps, which was the only instrument in his possession that promised any success in the extraction of the remnant of the catheter. The patient was put under the effects of chloroform, when it was found on examination, that the remaining end had receded behind the symphysis pubis into the membranous portion of the urethra, and could not be reached with the straight forceps. Here Dr. Muscroft ingeniously improvised a curved forceps by heating those he had in the stove, and bending them to the proper curvature over the window-sill. The patient being still under the influence of chloroform, the forceps were again intro-

duced, and after persevering efforts, the broken piece of catheter was nicely and firmly grasped, and extracted.

The catheter was not again introduced, but pressure with compresses and adhesive straps was made around the urethra with a view to re-establish the natural urinary channel and obliterate the fistulous opening.

This was successfully accomplished. The urine was voided freely from the meatus externus, none escaping at the wound.

On the 27th, the patient had a heavy chill, and on the following day complained of great pain in the perineum at the right and lower portion; a slight degree of redness and swelling was perceptible. On the fifth day following, an abscess had formed, which was punctured, and discharged a large quantity of pus. From this time forward the patient steadily improved, and was discharged from the hospital cured.

THIRD DIV., 13TH A.C.,
DEPT. OF THE CUMBERLAND.

B. C. BRETT,
Assist. Surg. 21st Reg. Wis. Vol. Inf.

EXPULSION OF TÆNIA BY THE PUMPKIN SEED.

By THOS. M. FLANDRAU,

SURGEON 146TH N.Y. VOL.

In the case of a girl, æt. 12 years, I administered two ounces of the pumpkin seed, grated with half a pint of sweetened water, after a fast of thirty-six hours. Nothing but tea was allowed during this period. One ounce of castor oil was taken two hours after the seeds.

About twenty feet of the tape-worm were passed during the action of the cathartic.

As I left town to rejoin the army on the day the prescription was made, I am unable to state whether the head of the worm was evacuated. No other vermifuges had been used.

A protracted fast being regarded as an important point in this method of expelling tænia, it is perhaps worth the trial to decide what would be the effect of the castor oil, so given, without the pumpkin seed.

CAMP NEAR CULPEPPER C. H., VA.,
Oct. 3, 1863.

TWO CASES OF HOSPITAL GANGRENE,
OCCURRING WITHOUT PREVIOUS WOUND.

By FRANK H. HAMILTON, M.D.,

PROF. MILITARY SURGERY AND FRACTURES AND DISLOCATIONS
IN THE BELLEVUE HOSPITAL MEDICAL COLLEGE, N. Y.

CASE I.—General Hospital No. 4, Nashville, Tenn. Westley Frost, of the 85th Illinois Vols., was convalescing from a severe attack of pneumonia, when, about the twenty-second of March, 1863, a small vesicle appeared upon the front of his right leg, where the skin was perfectly sound. This soon dried up, became black, and the sloughing commenced.

This man had never had syphilis, or any other constitutional specific malady, but at the moment of his attack he was exceedingly feeble. There were at the same time two or three cases of hospital gangrene in an adjoining ward, but none in the ward which he occupied.

On the fourteenth of April, when my attention was first called to him, the gangrene had been corrected by bromine, but the ulcer covered eight inches by four of superficial surface, and the shaft of the tibia was dead.

Some time during the month of August, by the courtesy of the surgeon in charge of the hospital, I was permitted to remove the dead bone, which was found to include all, or nearly all, of the tibia intermediate to the epiphyses. I have seen him several times since then, and find the wound cicatrizing finely, and his general health steadily improving.

II.—On the 26th of March, 1863, I saw, in General

Hospital No. 7, at Louisville, Ky., a Confederate soldier, Travis Austin, with two large ulcers, one upon the right wrist and the other upon the right leg, near the ankle, both ulcers being the result of hospital gangrene, which had been arrested by the use of bromine, applied as recommended by Dr. Goldsmith.

I was informed that he had not been wounded, but that he was admitted on the fifteenth of February, 1863, with purpura hæmorrhagica. He had been living a long time without fresh vegetables, and he was no doubt scorbutic. The gangrene commenced almost simultaneously both upon his wrist and his ankle, as a small pimple, from which point it rapidly spread.

DISLOCATION OF THE SECOND PHALANX OF THE GREAT TOE.

By J. M. CLEVELAND, M.D.,
OF THE STATE LUNATIC ASYLUM, UTICA, N. Y.

CARSTEN HOLTHOUSE observes that "dislocations of the second row of phalanges (toes) are so rare that Malgaigne could find but two examples of the accident on record; one was a compound dislocation affecting the great toe, and the other the third toe." See *Holmes's System of Surgery*, p. 672, vol. ii.

I give you the following case, not knowing whether the silence of the records referred to be owing to the rarity of the accident, or to its insignificance.

J. C., aged 38, a stout muscular man, a patient in the State Lunatic Asylum at Utica, being teased by a fellow-patient, ran after the latter, and dealt him a kick with his right foot, on which he wore a slipper. He suffered neither pain nor inconvenience in walking until six hours afterwards; when the great toe of the right foot became swollen, red, and acutely painful. On examination the great toe was found to be shortened, and the second phalanx dislocated backwards, and the extremity of the toe inclined upwards and slightly towards the second toe. Under iced water-dressings for two or three days the pain and swelling so far subsided, that reduction was easily accomplished.

CASE OF IMPERFORATE ANUS; THE BOWEL TERMINATING IN THE URETHRA.

By H. P. STEARNS, SURGEON U.S.V.,
IN CHARGE OF U.S. GENERAL HOSPITAL OF PADUCAH, KY.

I WAS asked, September 20th, by one Mr. Miles, to visit his child, and, if possible, relieve it by an operation, as there was no "outlet," as he expressed it, for the contents of the bowel.

I found the child, a well formed male, of about eight pounds weight, perfect, with the exception of the anus. The bowels were somewhat distended, and the child appeared to be in some pain, and was apparently making efforts to discharge the contents of the intestine. Chloroform was administered by my friend, Dr. L. S. Horton, and I proceeded to dissect through the integument or semimucous membrane, and carried the dissection about one inch and a half, finding no rectum or bowel. By introducing the finger I was able to distinctly feel the movement of the contents of the abdomen at each inspiration, my finger resting upon what I judged to be the peritoneum. As nothing could be felt indicating the location of the bowel, I came to the conclusion that it probably terminated in a *cul-de-sac* in some portion of the colon. If this should not prove to be the case, I thought it possible that, as it became more distended, it could be felt by the finger, and, consequently, introducing a tent, I left, promising to see the child again the next day.

Upon my next view I observed something about the penis which appeared to be fecal matter, and the attendant said that the child had passed fecal matter from the penis with much effort. No bowel could be felt through

the dissection which I had made, and I consequently left the result to nature, supposing the child would only survive a few hours. It died the next day at eleven o'clock A.M., having lived three days, and, as the attendant informed me, had three distinct fecal discharges by the urethra. Six hours after death I made an examination, and found all parts normal except that the bowel terminated in the urethra, entering it just in front of the prostate gland. I should add that the genitals were much larger than is usual, being of the size of those of an ordinary child eight years of age.

PADUCAH, KY., Sept. 30, 1868.

Progress of Medical Science.

PREPARED BY E. H. JANES, M.D.

PREVENTION AND CURE OF PUERPERAL INFLAMMATIONS.

WHILE there exists a greater or less mortality in childbed, the subject of its causes, prevention, and cure, cannot be too faithfully studied by the medical man. An elaborate paper on this subject, by Dr. ROBERT JOHNS, is published in the last number of the *Dublin Quarterly Journal of Medical Science*, founded upon many years' experience and observation, in which we are told that in by far the greater majority of instances, especially in private practice, *post partum* inflammation is either induced or overlooked by the medical attendant, from want of practical knowledge or attention on his part, or from neglect or violation of his directions by the nurse, by the patient, or her friends. In addition to his own observation, he is supported in this remark by such authority as Drs. Denman, John Clarke, and White. Without presuming to discuss the pathology, or to recommend any new specific for the treatment of the disease, the object of the paper is to point out some of the principal causes, and show how they may be avoided, or, failing to prevent the disease, to point out the best means for removing it. He views prevention in a twofold light: in one, our object being to avoid or remove predisposing causes; and in the other, when these causes have obtained, to counteract their baneful influence by adopting that treatment most likely to ward off the anticipated danger; and this he believes is best effected by adopting as a prophylactic—though less actively—the most powerful of those means successfully employed for cure of the disease. Should this fail, we have the advantage of having commenced treatment early in a disease which runs its course so rapidly. Though the causes of post-partum inflammation are numerous, the following are classed among the most frequent and most powerfully predisposing:—1. *Impaired health during pregnancy.* This we should remedy as far as possible by insisting upon the use of proper kinds of food, and regularity in the mode of living towards the end of pregnancy, by paying proper attention to the bowels, and by all means prevent an accumulation of feces. By seeing the patient occasionally, much may be done towards keeping her in good health. 2. *Want of cleanliness and ventilation.* Hospital influence. The remedy for this is obvious. The only means of arresting the disease when prevailing in a public institution is in shutting up, cleansing, painting, and thoroughly ventilating. As an example, he mentions the report of the Royal Maternité Charity of London for 1861, in which year 4,110 women were delivered, and 11 died, not one of whom had puerperal fever, while during the same period this disease largely embittered the charity of the London lying-in hospitals. 3. *Contagion. Epidemics.* This part of the subject is not confined to epidemics of puerperal fever and its kindred disease, erysipelas; but typhus, scarlatina, small-pox, physicians engaged in anatomical pursuits, or post-mortem examinations, all furnish abundant source of infection for the propagation of this disease. In support of this, he cites what occurred some years since at the Vienna Lying-in Hospital, where it was the

habit to intrust one portion of the patients to the care of male students, whilst the other portion was attended by females. It soon became manifest that the mortality amongst the former class was far greater than in the latter, which, on inquiry, was found to have resulted from the fact of the male students being engaged daily in anatomical pursuits. They were then superseded by females, after which the discrepancy completely disappeared, and an order was issued, that, for the future, no student so engaged would be permitted to attend. He is so strongly impressed with the truth of this observation, that he invariably refuses either to make or assist at necroscopic examinations, and considers it highly reprehensible for any person so engaged, or in the attendance of typhus fever, erysipelas, or puerperal fever in hospitals, or who is resident therein at epidemic periods, to practise midwifery. Though the disease be epidemic in its origin, we often have sufficient precursory indications to lead us to fear the approach of an epidemic, and thus enable us to make use of such prophylactic measures as are within our power. These indications are, slow recoveries, without being able satisfactorily to account for them, deficiency of pains, irregular and spasmodic contractions, rigidity of the os, and other causes of prolonged labor, which, of itself, is one great source of the disease. This is supported by the evidence of Drs. Collins, Joseph Clarke, and Van Franke. 4. *Distress of mind from seduction and such like; anxiety, and excitement caused by visitors.* The connexion between mind and body is nowhere better exemplified than in the puerperal state; and it is a true remark that seduced females are particularly obnoxious to puerperal fever, which is with them very fatal. Newspaper reports of deaths from this disease, and many stories continually rung in the ears of the poor victim by the anxious but meddling friends, all have their mischievous tendency, and should, as far as possible, be prohibited; also, the too early admission of visitors into the patient's room, while still suffering from that irritation of the system occasioned by the violent efforts of labor. 5. *Errors in diet, and use of stimulants.* From various authorities consulted, as well as from actual experience, it is laid down as a rule that animal food is improper, and ought not to be allowed till after the secretion of milk has been well established, the attendant fever subsided, and the pulse has come down to its natural standard. Stimulants employed during labor induce hæmorrhage; and if taken too soon after its completion, induce puerperal inflammation. 6. *Hæmorrhage; introduction of the hand for version, or retained placenta; portion of secundines retained, or clots putrefied in the uterus.* 7. *Drawing the breast by artificial means too soon after delivery, or repelling the milk too suddenly by cold applications of vinegar, etc.* 8. *Exposure to cold, too early rising, or going out too soon after delivery.* We cannot too carefully guard our patient from exposure to cold, either from too light clothing, or the too abrupt removal of the binder, or from going out for a walk or drive, for at least a month after delivery. This must be apparent to all when we bear in mind that the womb, which before impregnation measured two and a half inches, and weighed about an ounce and a half, and which had at the termination of utero-gestation increased to twelve inches, and attained to the weight of several pounds, could not return to its pristine condition in a shorter period of time. With a view to avoid inflammation, as well as the foundation for future mischief, it is deemed paramount to keep the patient in a recumbent posture so long as we can feel the uterus enlarged above the pubes. 9. *Puerperal convulsions, actual or threatened.* Collins and Denman both allude to this fact, and Dr. Johns has elsewhere expressed the same opinion, which his subsequent experience has proved to be correct. 10. *Uterine disease.* 11. *Inhalation of Chloroform during labor.* He entertains no doubt that this strongly predisposes to puerperal inflammation, producing the disease either directly by poisoning the blood or otherwise, or indirectly by inducing hæmorrhage, or chest affections, already stated to be promoters of the malady. He has already written a paper on this sub-

ject, published in a previous number of the Journal. If we are not successful in avoiding or removing these causes, our next duty is to employ, as a prophylactic, such remedies as have been most successful in treating the disease, regulating the administration by the number and force of existing influences. For this purpose mercury is recommended to be employed in a mild way, commencing immediately after, and in some instances before delivery, and continuing its use until the milk has been secreted. Where the patient has suffered much in the removal of the after-birth, Dr. Collins recommends the use of calomel and ipecacuanha, to be commenced immediately after delivery, so as to be beforehand with inflammatory attack. It is highly important that the treatment should be commenced early, as a few hours' delay may often be the cause of a fatal result; hence the necessity of watching narrowly the condition of the patient, so as to be able to detect the slightest inflammatory symptom, and of seeing the patient instantly if sent for under circumstances that lead us to suspect the slightest danger. The treatment should not only be prompt but thorough. The abstraction of blood is generally requisite, though venesection, owing to the asthenic nature of the disease, is not so often resorted to as formerly. The repeated application of leeches answers better, and does not weaken the patient. Mercury is regarded as our sheet-anchor, and should be given in very bad cases to an extent nothing short of salivation. Owing to the diarrhoea that sometimes accompanies the administration of mercury, Dr. Johns is in the habit of giving it in combination with opium and bismuth, giving the mercury in small doses by the mouth, together with its endermic use. When used in this manner, he has never seen the bowel complaint increased, but, on the contrary, arrested. He knows of no well authenticated case terminating fatally where there were distinct evidences of the system having been affected by mercury. As adjuncts he employs stupes, turpentine epithems, turpentine internally if much flatulence exists, linseed-meal poultices, hot dry bran, and blisters, in some instances dressed with mercurial ointment. Where mercury is inadmissible, or when it has been inefficiently used or neglected, secondary affections are likely to supervene, when quinine with opium, bark with ammonia, chlorate of potash, sesquichloride of iron, broths, and brandy, are indicated.

SYPHILIS IN THE ENGLISH ARMY.—From the Army Statistical Reports it appears that the annual admissions into hospital from venereal diseases amount to 206 in every 1000 Cavalry soldiers, 250 in the same number of Foot Guards, and 277 in every 1000 Infantry of the Line. The average proportion for the Army at home is 267 per 1000, or more than one-fourth of the whole number. It is calculated that on the lowest average each man is fifteen days under treatment. Thus 688 men out of the home force are always in hospital from this cause alone—a number equal, or nearly so, to the strength of a regiment on the home establishment; and the money loss to the State is calculated at nearly £14,500 a year. The further loss from subsequent disease and invaliding, and the injury to the State from the life-long deterioration of the individual and from the hereditary curses of transformed syphilis and scrofula conveyed to future generations, are beyond calculation. In India the case appears worse than in England. The proportion of venereal cases constantly in hospital is usually from 20 to 25 per cent. of the total sick. At some of the larger stations it much exceeds this. At Bangalore and Roorkee the proportion at the time the report was made was 50 per cent.; at Dinapore it was as high as 53 per cent.; and Dr. Maclean testified that a few years ago in the 1st Madras Fusiliers the amount of syphilis was equivalent to the withdrawal from duty of one-fourth of a company daily.—*Lancet.*

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, April 22, 1868.

DR. D. S. CONANT, PRESIDENT, IN THE CHAIR.

OVARIOTOMY.

DR. FINNELL exhibited a mass of ovarian disease removed by ovariectomy from a patient twenty-six years of age. She first came under the notice of Dr. Finnell a year before. The abdominal swelling at that time was very great, and the only relief that could be obtained was by tapping. Four or five gallons were drawn off at the first operation, and about three gallons at the second. At her very urgent request the operation for ovariectomy was performed, notwithstanding the fact that she was very much run down.

The incision was made a little to the right of the median line, four or five inches in length, and a little below the umbilicus. There were some slight attachments to the omentum, which, however, were very easily separated. The pedicle was about one inch in thickness, and about three inches in length; it was drawn out as usual, and secured with a silver wire suture. The tumor weighed seven pounds. On the morning of the second day after the operation the patient commenced vomiting, and experienced considerable pain and tenderness of the abdomen. On the fifth day peritonitis was fully developed, and she died. There was found at the time of the operation, floating around in the abdominal cavity, a mass of false membrane, which evidently was the result of previous inflammations.

DR. CONANT thought it good practice, where the pedicle was short, to bring out the ligature through the vagina by means of a curved trocar. The opening thus made would be large enough to allow the escape of fluids, but too small to admit air.

DR. PRINCE was of the opinion that the ecraseur would be serviceable in cases where the pedicle was short.

DR. FINNELL remarked, that he would be afraid to return the pedicle, inasmuch as, when reaction came on, the danger of hæmorrhage would be too great.

DR. SANDS had read of a case reported in one of the English journals where a great deal of violence had been resorted to in order to break up old adhesions, and yet the patient made a good recovery. This was simply owing to the fact that the peritoneum, in consequence of numerous previous attacks of inflammation, had become so altered as not to be susceptible of extensive inflammation. The same analogy holds good in long standing disease of the pleura and of the knee-joint.

OPERATION OF TREPHINING.

DR. CONANT presented a disc of bone removed by trephining from the skull of a boy, with the following history. The patient had been tending the launch of a gunboat, when a hawser, attached to the capstan, broke, throwing him violently against a spar. He struck head first, and remained insensible for three-quarters of an hour, but at the end of that time he became rational, and remained so for three days. On the right side of his head, near the parietal bone, was noticed a soft tumor, but no depression could be made out. On the fourth day there were manifest some typhoid symptoms, and a brisk cathartic was accordingly given. On the sixth day there was noticed a soft tumor on the opposite side of the head, with edges so marked that the physician who saw the case was inclined to think that there was depression of bone. On the morning of the seventh day there was convulsion of the right side, followed by paralysis of the right arm and right side of the neck. There was also a slight convulsion of the right leg. The pupils were very much dilated. On the morning of the

twenty-seventh day after the injury the patient had another convulsion, and Dr. Conant was sent for. The patient was etherized, and the head very carefully examined. On the right side of the head no depression was discovered, but on the left side there seemed to be a slight yielding on pressure. It was determined to cut down in this situation. On baring the bone a fissure was discovered, with blood oozing from it, when it was concluded that a clot which had been very slowly forming existed underneath. A button of bone was accordingly removed, disclosing a blood clot, which, on being removed, it was found that the patient could move his arm perfectly well, and his intellect began to get clear. On the twelfth day he was able to be up and dressed. The pupils are still a little dilated.

REMOVAL OF ENCEPHALOID DISEASE OF THROAT.

DR. CONANT also referred to a case of operation for the removal of encephaloid disease of the throat. The patient was sixty-seven years of age, and the disease had only made its appearance five months previous, but in that time its rapidity of growth was such as to fill up almost the entire faucial orifice. Dr. Conant at first took off about two-thirds of the mass by means of the ecraseur, and at the end of ten days removed the remaining portion. There was a considerable amount of hæmorrhage, which, however, was checked by the application of the persulphate of iron. The patient made a good recovery. On examination of the mass after removal, the starting point of the disease was found in the mucous membrane immediately surrounding the tonsil.

The Society then adjourned.

American Medical Times.

SATURDAY, OCTOBER 17, 1863.

PRESENT REMUNERATION FOR PROFESSIONAL SERVICES.

THE subject of remuneration for professional services has always interested the mind of the medical public, and notwithstanding so many discussions have been held upon the question it has hardly yet become threadbare; in fact, it is not likely ever to lose its claim for consideration as long as medicine is practised for a livelihood. We do not, however, wish to discuss the question in all its bearings, but would merely present some thoughts having reference to the present times. Speculators in gold, job stock brokers, contractors, and the like, have so crippled the confidence in the money market that as a consequence provisions, and all the other necessities of life, have risen to surprisingly high rates, so that the actual cost of living is now nearly double what it was nearly two years ago. Every component part of the community feels the burden of this great advance on the price of goods, and the redress is sought in a corresponding demand for an increase in wages. We already have seen that among the lower classes, where the burden is necessarily soonest felt, "strikes" have been so common that almost every artisan can now lay claim to his just dues. It is but proper that every laborer and business man should seek to protect himself by an increase upon his rates; and the physician, viewed in the light of one who is expected to earn his living by the practice of his profession, should not be behindhand in asserting his claims for justice. We maintain that some advance in the present rate of charges should be agreed upon by the profession as a body, in order that they

may protect themselves against such ruinously high prices. To those gentlemen who have large incomes this may not be so seriously felt; but to the young practitioner, whose yearly receipts heretofore have been barely sufficient to maintain him in the style in which he should live, it becomes an absolute necessity, else he renders himself liable to get into debt, or may perchance be forced to deny himself some of the necessities of life. The profession should look to its interests, and it can only do so in the matter by acting as a unit.

In adjusting what we consider our claims upon the community, we must not render ourselves liable to run into another extreme, by demanding anything more than what is our due. The evils of exorbitant charging are not only great, so far as they will prejudice the community against us, but as a body we ourselves would be seriously damaged, inasmuch as it would tempt us to lose sight of our sacred mission in the love for gain, thus degrading our profession to the level of the merest trade. The practitioner of medicine establishes for himself a certain *quid pro quo* for the treatment of a disease; but he is not prepared to admit that his services are only worth just so much, that his advice to the poor sufferer *can* be paid for in mere dollars and cents, but as a domestic economist he is entitled to a certain income to supply his wants, and by virtue of that alone does he feel, as a physician, that he is entitled to a fee.

With this view of the question, there is no need for any false delicacy in the matter, and we should not be at all backward in establishing such pecuniary relations to the public as we are really entitled to. As men of science and philanthropists, we look after the interests of the community in a manner which lays them under infinite obligations to us, and the least that they can do is to afford us a decent means of livelihood.

We think that the subject is one which should be agitated in professional circles, in order that some concerted action may be the result, and some uniform tariff of prices be at once determined upon.

THE WEEK.

At the recent International Congress held at Vienna, the health of armies and of recruits was a subject of discussion. The following allusion to the action taken, is from a newspaper correspondent:—

The fourth section reports on the health of the army, particularly of the recruits. Extreme opinions prevail about the sanitary condition of the army. The elaborate reports of Drissangel and Prof. Virchow have been an excellent basis for the labors of this section. The statistics of the sanitary condition of recruits is a most difficult subject. Their healthy condition represents a valuable capital. The section has come to the following resolutions:—

1. The Congress sees an excellent opportunity to obtain through recruits exact information of the sanitary condition of a large portion of the male population.

2. It is the wish of the section that all recruits be examined and their sanitary condition be investigated, not excepting those who are deficient in stature nor those altogether unfit.

3. Principal points to be inquired into.

(a) Place of nativity and occupation.

(b) Stature, weight, circumference, measure of breast. (The measurement to be taken in a quite uniform manner.)

(c) Statement of the morbid condition which caused unfitness for service. Exact tables, such as given in the

programme of the preparatory committee (too voluminous to be reproduced here), should be prepared. The Congress recommends urgently to the governments the acceptance of these resolutions. The programme contains most learned essays by Professor Virchow on this subject, which are recommended by the fourth section for the information and consideration of governments.

We have several times alluded to the hospital cars recently constructed, at the suggestion of the Sanitary Commission. To Dr. ELISHA HARRIS is due the credit of devising them, and we are happy to know that they serve an admirable purpose. They are already to be placed on several of the most important railroads. A contemporary thus describes what it designates as the Harris hospital car:—

"The length is 41 1-2 feet, and the width 8 feet 7 inches. The car will accommodate thirty-six patients, with the requisite number of attendants, usually three or four—surgeon, steward, and two 'contrabands,' the patients being divided off as follows:—Twenty-four in beds, four on sofa, and six—the more convalescent—in easy chairs. Some idea may be formed of the thoughtfulness of Dr. Elisha Harris, of New York, the originator of these cars, when we state that in addition to all the mechanical comforts supplied in the build of the car, the following partial list of articles of the first quality is also provided:—24 stretchers, 31 pillows, 24 counterpanes, 24 pairs of socks, 30 pairs of slippers, 50 towels, 10 pair surgeon-splints, 15 gowns, 1 roll of lint, 25 handkerchiefs, cooking apparatus, case of medicine, beef-stock, coffee, milk, cups, pitchers, knives, tin plates, bandages, rubber air pillows, rubber pails and blankets, utensils for cleansing, canteens, fans, and jellies—making in all a complete and portable hospital. The facilities for ventilating the car cannot be surpassed for simplicity and efficacy. A free and pure current of air is constantly supplied, smoke and dust being ingeniously avoided. Every department, in fact, is so complete, that a simple description cannot do justice to the ingenuity displayed in each."

WHILE the citizens of New York have received with private and civic ovations the officers of the Russian fleet now in our harbor, the medical profession has extended to the surgeons of the fleet a cordial greeting. In another column we give the address of welcome of Dr. BUCK, on the part of the Academy, and the reply of a member of the Russian staff. Four members of the staff visited the Academy of Medicine at its last meeting, and were warmly welcomed by the President, Dr. Anderson, after which the meeting adjourned to that gentleman's house, where a social reunion was held.

Correspondence.

WOUNDS OF THE CAVITIES, VISCERA, AND BRAIN.

[Third letter of Dr. A. H. HOFF, Surg. U.S.V., to PROF. MARCH, of Brooklyn, N. Y.]

DEAR SIR:—I have expressed to you very freely my ideas in reference to resections, support of fractures, etc., etc., and I shall devote this letter to wounds of the cavities, viscera, and brain. Wounds of the chest are not as common as one would suppose. It is a singular fact, that the vast majority of wounds are of the extremities. However, it has been my fortune to have had placed in my charge quite a number wounded in the chest, and most of these several days after receiving the injury. The history of these cases, so far, does not endorse the determined

necessity of the peculiar treatment presented heretofore by many of our military surgeons. I find here, as well as everywhere, that we all are inclined to ride our hobby, some insisting upon one thing, and some upon another. But what has surprised me most, is the fact that in the midst of a multitude of opinions our patients recover with but little of our interference. I have not seen, so far, a single case of internal hæmorrhage from a gunshot wound penetrating any of the cavities, supposing the reason to be that death invariably ensues within a short time after the wound is received. Those cases that have come under my notice, have, so far, simply required care as to position, and a moderate degree of treatment, having a tendency to compose the nervous system, and hold in check inflammatory action.

Hearing the air rushing out through an aperture in a man's back, and through another in front on the opposite side, at every expiration, would incline one to make a very unfavorable prognosis; but to have the same man shake you by the hand six months after, with his musket slung across his shoulder, well and hearty, would lead you to ask how can this be, and what has been done to accomplish it. On inquiry, you find that first one hole closed up; then, after a little, it produced no inconvenience to stop up the other. The expectoration, which was somewhat troublesome and streaked with blood, continued for two or three days; then more oppression was felt, some twinging pains, respiration after reaching a certain point was painful, but the patient could get along without breathing so long; it did not seem necessary to support life that a full inspiration must be taken, and it could not be done, because it hurt; felt better in a semi-recumbent position, but found lying on the side, "scoop fashion," did just as well, and enabled him to sleep and let all the matter run out; had a first-rate appetite, but had to be careful not to fill his belly too full, as he could not breathe so well; washing him off with cold water now and then, first along with a patch spread on his breast, kept cool, felt first-rate, made him breathe easier, and then, keeping perfectly quiet, not talking any, and having folks keep away from him, saved his life. "Didn't take much doctor stuff; a little stuff now and then to make him sleep, and once, he believed, a little physic to open him." I have outlined this conversation for the purpose of pleasantly demonstrating what made a man so severely wounded feel comfortable, gleaned from it the following indications:—1st, Keep the orifice open. 2d, Be particular as to position, consulting the patient's feelings carefully, as he is the best judge. 3d, Keep the chest cool. 4th, Give free exit to all discharge. 5th, Quiet all irritation by keeping the patient perfectly quiet, giving anodynes, but with great care; be cautious about diet, more especially quantity, and meet with decision any untoward complication your watchfulness may discover. Don't think, because the wound is dreadful, the remedies must be dreadful with which you attack it. On looking over what I have written, I feel inclined to think you will laugh at me, but you know my hobby is to add the sufferer's opinion to my own thinking, thereby better to get at the indications; for he feels the pain, and I judge of the cause; he knows when it is relieved, I find out the reason. Nature cures, I do the best to assist. Allow me here to make this remark; on the battle-field it would be a troublesome matter to carry out the immediate treatment recommended for gunshot wounds of the chest accompanied with severe hæmorrhage. I hope it will never be my fortune to receive one, as death would be my certain doom.—I find I have consumed all my time. The army is in front of Vicksburg; what is to be done, I have not been informed, but I am happy to say that the medical department out here is in first-rate condition; everything in readiness, let come what will.

U.S. HOSPITAL STEAMER D. A. JANUARY,
YOUNG'S POINT, LA., March 29, 1868.

MINIÉ RIFLE BALL ENTERING THE BELLY AND ESCAPING BY THE RECTUM.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—In one of the late numbers of your Journal a correspondent has reported two cases of the escape of balls by the rectum. I wish to report a third.

On the twenty-ninth of March, 1863, I saw, in Hospital No. 8, at Louisville, Ky., Corporal John I. English, of the 5th Indiana Battery, who was wounded at Murfreesboro, on the thirty-first of December, 1862, by a conical ball, which entered just below and in front of the anterior superior spinous process of the ilium, on the left side. The ball escaped from the rectum on the fortieth day.

When I saw Corporal English he was in bed: the wound in front had closed, but matter continued to discharge by the rectum. His bowels were regular; but he was obliged to urinate often, and urination was attended with some pain. His health was steadily improving, and there was but little reason to doubt his final and complete recovery. The ball, which he showed me, was a little battered.

Very truly yours,
FRANK H. HAMILTON.

NEW YORK.

Army Medical Intelligence.

(CIRCULAR NO. 19.)

SURGEON-GENERAL'S OFFICE, }
WASHINGTON, D.C., Sept. 2, 1868. }

THE assignment of Officers in command of Companies of the Invalid Corps to General Hospitals, is for the purpose of increasing the efficiency of the Hospitals, and is a part of the hospital organization, under the senior Medical Officer.

They are, while on that duty, a portion of the Commissioned Staff of the Hospital, and are entitled to the same allowance of quarters, fuel, etc., within the Hospital, when at all practicable, as Medical Officers of similar rank.

It is confidently expected that much benefit will be derived from the provisions of General Orders No. 212, current series, and that Surgeons in charge of General Hospitals will endeavor to render the position of these Officers such that there will be entire harmony and concord of action in the performance of their respective duties.

By order:

C. H. CRANE,
Surg. U.S.A.

(CIRCULAR NO. 20.)

SURGEON-GENERAL'S OFFICE, }
WASHINGTON CITY, Sept. 29, 1868. }

Medical Directors, in cities where there are several General Hospitals, will designate one in each city at which enlisted men, requiring Trusses, will report themselves to the Surgeon in charge, to be measured for and fitted with the proper instruments. Medical Purveyors will cause to be made, and furnish, Trusses corresponding in measure and description with the requisition to be made in each case, in lieu of the usual issue, which will be discontinued to all General Hospitals where this arrangement can be carried into effect.

By order:

C. H. CRANE,
Surg. U.S.A.

ORDERS, CHANGES, &c.

Surgeon William S. King, U.S.A., has been relieved from duty as Medical Director, Department of the Susquehanna, and ordered to proceed to Lexington, Ky., and report in person to Major-General Burnside, commanding Department of the Ohio, for duty as Medical Director of that Department.

Surgeon Gleason S. Palmer, U.S.V., on duty at Chambersburg, Pa., has been ordered to report to Major-General Meade, for duty as Medical Director, 11th Army Corps.

Surgeon C. F. H. Campbell, U.S.V., on being relieved as Medical Director, 11th Army Corps, will report to the Medical Director, Department of the Susquehanna, for duty at Chambersburg, Pa.

In accordance with the findings of a military commission, convened by virtue of Special Orders No. 856, Headquarters District of Memphis, and by direction of the President, Assistant-Surgeon W. S. Bell, 43d Ohio Vols., has been dismissed the service of the United States for absence without leave.

The leave of absence heretofore granted Surgeon R. K. Smith, U.S.V., from the Headquarters Department of the Gulf, has been extended twenty days.

Edward Russell, late Surgeon 4th Louisiana Vols., dismissed as Assistant-Surgeon 26th Massachusetts Vols., by Special Orders No. 233, current series, has been restored to his regiment with pay from the date of rejoining it for duty, on condition that he shall refund to the Pay Department an over-payment of \$225.16, and provided the vacancy has not been filled, evidence of which must be obtained from the Governor or appointing authority.

The following named Medical Officers have been assigned to duty with the Army of the Potomac, to report in person without delay to Surgeon Jonathan Letterman, U.S.A., Medical Director of that Army. Assistant-Surgeon E. J. Marsh, U.S.A., now on duty in Washington, D. C.

Assistant-Surgeon C. K. Winne, U.S.A., now on duty at Pittsburgh, Pa., Department of the Monongahela.

Assistant-Surgeon John Bell, U.S.A., now on sick leave, at the expiration of his leave.

Assistant-Surgeon Van Buren Hubbard, U.S.A., now in charge of U.S. General Hospital, Filbert street, Philadelphia, Pa.

Assistant-Surgeon Edward Brooks, U.S.A., now on duty in Baltimore, Md.

So much of Special Orders No. 408, September 17, 1868, from this Office, as directed Assistant-Surgeon W. C. Daniels, U.S.V., to report in person without delay to Major-General Grant, U.S.V., commanding Department of the Tennessee, is hereby revoked, and Surgeon Daniels will report at once to Major-General Burnside, U.S.V., commanding Department of the Ohio, for duty.

So much of Special Orders No. 294, July 3, 1868, as directed Surgeon Charles McCormick, U.S.A., to report in person to Brigadier-General Kelly, U.S.V., commanding Department of Western Virginia, for duty as Medical Director, has been revoked, and Surgeon McCormick will proceed without delay to Wilmington, Del., and relieve Surgeon John Campbell, U.S.A., as a member of the Retiring Board, convened by Special Orders No. 307, July 11, 1868, now in session at that place.

Surgeon Campbell on being relieved to proceed to the Headquarters Department of the Susquehanna, and report to Major-General Couch commanding, for duty as Medical Director.

By direction of the President, and upon the recommendation of the Board of Examiners, convened by Special Orders No. 294, July 3, 1868, Surgeon W. H. White, U.S.V., has been honorably discharged the service of the United States on account of physical disability, to date September 26, 1868.

Leave of absence has been granted to the following Medical Officers:—

Acting Assistant-Surgeon G. M. Paullin, U.S.A., for twelve days.

Assistant-Surgeon R. E. Wiestling, 1st District of Columbia Cavalry, for fifteen days.

Surgeon J. S. Hildreth, U.S.V., Desmarres Hospital, Washington, D. C., for fifteen days.

Surgeon James Bryan, U.S.V., is on sick leave at Philadelphia, Pa.

Surgeon John A. Liddell, U.S.V., has been granted twenty days' leave, on account of sickness.

Assistant-Surgeon W. C. Spencer, U.S.A., has been relieved as Medical Purveyor, Department of the Gulf, at New Orleans, La.

The following assignment of Medical Inspectors is hereby made:—

Lieutenant-Colonel E. F. Vollum, U.S.A., now stationed in Washington, D. C., to report in person to Major-General Koecher, commanding Department of the Cumberland, as Medical Inspector of that Department, and by letter to Assistant Surgeon-General Wood at St. Louis Station, Nashville.

Lieutenant-Colonel Peter Pineo, U.S.A., now at Boston, Mass., awaiting orders, to report for duty as Medical Inspector to Major-General Gilmore, commanding Department of the South. Station, Hilton Head, S. C.

Lieutenant-Colonel Augustus C. Hamlin, U.S.A., now on duty in the Department of the South, to report to this city, and report in person to the Medical Inspector-General, U.S.A., as Medical Inspector of the Department of Washington.

Lieutenant-Colonel John Wilson, U.S.A., upon completion of special duty in Medical Inspector-General's Office, to report to Major-General Meade, commanding Army of the Potomac, as Medical Inspector of that Army. Station, Washington, D. C.

Lieutenant-Colonel N. S. Townsend, U.S.A., now on leave of absence, to report at the expiration of his leave to Assistant Surgeon-General R. C. Wood, at St. Louis, for assignment.

Lieutenant-Colonel George W. Stipp, U.S.A., now on leave of absence, to report at the expiration of his leave to Major-General Banks commanding Department of the Gulf, for duty as Medical Inspector of that Department. Station, New Orleans.

Lieutenant-Colonel John L. Le Conte, U.S.V., now on duty as Medical Inspector in the Department of the Missouri, to report to Major-General Couch, commanding Department of the Susquehanna, for duty as Medical Inspector of that Department. Station, Philadelphia, Pa.

The leave of absence granted Surgeon W. S. Forbes, U.S.V., in Special Orders 217, Headquarters Department of the Gulf, has been extended twenty days.

STATISTICS OF THE CAUSES OF EXEMPTION.—Provost Marshal-General Fry has issued a circular directing that immediately upon the completion of the draft in any district, the Surgeon of the Board of Enrollment therein will compile, and forward to the Provost Marshal-General's Office, the statistics of the causes of exemption, on account of physical disability, from such draft in his district. The report will show the whole number of men drafted in the district, with an alphabetical list of the several kinds of disability, and the number rejected for each, and will be accompanied by a detailed statement of such other facts as may be of scientific importance to the medical profession of the army.

Dr. Roger W. Pease (Surgeon New York Vols.), has been appointed Assistant-Surgeon U.S.V., to date October 2, 1868.

By direction of the President, Assistant-Surgeon L. H. Pease, 10th Connecticut Vols., has been dismissed the service of the United States.

Lieutenant-Colonel J. M. Cuyler, Medical Inspector U.S.A., has been directed to make a close inspection of the command in and near Norfolk and Portsmouth, Va., and the United States General Hospital at Old Point Comfort.

Surgeon E. B. Bontecou, U.S.V., has been relieved from duty in the South, and will report in person without delay to the Medical Director, Department of Washington, for duty in charge of the Harewood General Hospital.

Surgeon A. T. Augusta, 7th U.S. colored troops, is hereby relieved from duty at the Contraband camp near this city, and will report immediately to Surgeon Josiah Simpson, U.S.A., Medical Director, Baltimore, Md., for duty with his regiment.

A Board of Medical Officers, to consist of Surgeons J. J. B. Wright and E. H. Abadie, U.S.A., and Assistant-Surgeon J. H. Bill, U.S.A., will convene in New York city on the fifteenth day of October, 1868, or as soon thereafter as practicable, for the examination of candidates for the appointment of Assistant-Surgeons in the U.S.A., and of any Assistant-Surgeons for promotion who may be brought before it.

Assistant-Surgeon Wallace D. Martin, 62d Pennsylvania Vols. has been discharged the service of the United States on account of physical disability, and for absence without proper authority, as reported on the rolls of the regiment.

Permission to delay reporting to the Medical Director, Department of the Gulf (as directed by Special Orders 408, September 11, 1868, from the War Department), for fifteen days, is hereby granted Surgeon Thomas B. Reed, U.S.V.

Upon the report of a Board, organized by virtue of Special Field Orders No. 205, July 27, 1868, Headquarters Department of the Cumberland, Assistant-Surgeon Moonen Brooks, 63d Indiana Vols., has been, by direction of the President, discharged the service of the United States for incompetency.

The leave of absence granted Surgeon Lincoln R. Stone, 54th Massachusetts Vols., in Special Orders No. 541, September 23, 1868, from Headquarters Department of the South, to enable him to appear before the Army Medical Board, now in session at Washington, for the examination of candidates for appointment of Surgeons and Assistant-Surgeons of Volunteers, has been extended ten days.

So much of Special Orders No. 433, September 27, 1868, from the Adjutant-General's Office, as directed Surgeon G. S. Palmer, U.S.V., to report to the Medical Director, Army of the Potomac, for duty as Medical Director, 11th Army Corps, is hereby revoked, and Surgeon Palmer will report for temporary duty at Carlisle, Pa., to relieve Surgeon J. J. B. Wright, U.S.A. On the return of Surgeon Wright to his duty at Carlisle, Pa., Surgeon Palmer will report by letter to the Surgeon-General for duty.

Permission to delay ten days en route to his station is granted Surgeon P. H. Humphreys, 58th New York Vols.

The leave of absence, heretofore granted Surgeon R. K. Smith, U.S. Vols., is extended ten days.

Leave of absence has been granted to:—

Surgeon J. M. Allen, 54th Pa. Vols., for fifteen days.

Assistant-Surgeon J. H. Williams, 123d Ohio Vols., for twenty days.

Surgeon Chas. O'Leary, U.S.V., for twenty days.

The following named commissioned officers have been detached from their respective commands, and ordered to report in person to Brigadier-General Wild, U.S.V., at Morris Island, S. C.

Assistant-Surgeon H. H. Mitchell, 39th Massachusetts Vols.

Assistant-Surgeon Arthur H. Cowdry, 7th Massachusetts Vols.

By direction of the President, Surgeon James C. Fisher, U.S.V., is hereby dismissed the service of the United States, for persistent failure in making to the Surgeon-General's Office, monthly reports of station and duties, as required by circular from that office.

Leave of absence has been granted to Assistant-Surgeon H. M. Sprague, U.S.A., for twenty days.

Surgeon E. J. Bailey, U.S.A., has been relieved from duty as a member of the Board to retire disabled officers, convened by Special Orders No. 307, July 11, 1868, and now in session at Wilmington, Del., and Surgeon Ebenezer Swift, U.S.A., is detailed as a member of said Board, in his place.

Surgeon W. C. Otterson, U.S.V., has been ordered to report to the Assistant Surgeon-General, at St. Louis, Mo., for hospital duty, as soon as his health will permit.

Surgeon Frederick Seymour, U.S.V., has been ordered to report to Nashville, Tenn., and settle his accounts and property returns.

Assistant Surgeons Gerhard Sahl, H. L. W. Burritt, and Edwin Freeman, U.S.V., have been ordered to report to Surgeon J. E. McDonald, U.S.V., Medical Director 9th Army Corps, Department of the Ohio.

Surgeon F. A. Kaffer, U.S.V., has relieved Assistant-Surgeon W. C. Spencer, U.S.A., as Medical Director, Department of the Gulf, at New Orleans, La.

The General Hospitals, Stanley and Foster, at Newbern, N. C., have been consolidated under the charge of Surgeon J. J. De Lamater, U.S.V.

A General Hospital is being established at Madison, Wisc., for the accommodation of Northwestern Volunteers.

Surgeon B. Beust, U.S.V., is on twenty days' leave at Weehawken, N. J.

Surgeon Snelling, U.S.V., has been assigned to the charge of the Chesapeake hospital, Fort Monroe, Va., relieving Surgeon A. E. Stocker, U.S.V., who will report to the Medical Director, Fort Monroe, for duty.

Surgeon C. Cowgill, U.S.V., in addition to his duties as Superintendent of General Hospitals for the District of North Carolina, will assume charge of the Contraband Department of the same District, and also perform the duty of Surgeon-in-Chief to the command of Brigadier-General Palmer.

Surgeon S. S. Schultz, U.S.V., has been transferred from Covington, Ky., to Madison, Ind.

Assistant-Surgeon Francis Greene, U.S.V., is in New York on sick leave from Department of the South.

Assistant-Surgeon A. B. Chapin, U.S.V., is sick in quarters at Annapolis Junction, Md.

The following officers are hereby honorably discharged the service of the United States on account of physical disability, with condition that they shall receive no final payments until they shall have satisfied the Pay Department that they are not indebted to the Government.

Assistant-Surgeon E. F. Spaulding, 7th Wisconsin Vols.
Surgeon Levi Butler, 3d Minnesota Vols.

CIVILITIES TO THE MEDICAL STAFF OF THE IMPERIAL RUSSIAN ATLANTIC SQUADRON.

A DEPUTATION of the New York Academy of Medicine visited the flag-ship of the Russian squadron in our harbor, on Monday the 5th inst., and was most cordially received by the whole medical staff, assembled by previous appointment. After mutual greetings the company proceeded to the Admiral's cabin, where refreshments were provided. The Chairman of the deputation made a brief address in French to the Staff, welcoming them to our city in the name of the Academy, inviting them to be present at its regular meetings during their stay among us, and tendering such personal services as might render their visit agreeable and useful. A response was made in the same language by one of the Staff, heartily reciprocating the fraternal sentiments expressed by the deputation. An hour was then most agreeably spent in conversation and the interchange of mutual good wishes; another member of the Staff also addressed the deputation in English, reiterating the fraternal feelings which all present shared in. After being shown through the ship, and admiring the completeness of her equipment, and the admirable order everywhere conspicuous, the deputation took their leave, highly gratified with their visit.

The deputation, consisting of Drs. Buck, Post, and G. A. Peters, was accompanied by the following members of the Academy: Drs. Delafield, Bulkley, Detmold, Hubbard, Geo. T. Elliot, Joel Foster, Underhill, Noyes, and Bell of Brooklyn.

Dr. Buck made the following address:—

GENTLEMEN AND HONORED COLLEAGUES OF THE MEDICAL CORPS OF THE IMPERIAL RUSSIAN ATLANTIC SQUADRON:—As Delegates of the New York Academy of Medicine we come to welcome you to our city, and express the satisfaction afforded us by this first visit of a Russian squadron to our shores. We avail ourselves of the opportunity to extend to you a fraternal hand. Though separated by the Ocean we are members of the same honorable profession, everywhere laboring in the common cause of humanity and science, and animated by the same motives and aspirations. It affords us pleasure to-day to give expression to that international sympathy which subsists between our respective governments.

GENTLEMEN—The Academy of Medicine has specially charged us to invite you and your colleagues who are expected yet to arrive in our harbor, to be present at its regular meetings during your stay among us. We shall also be happy personally to render you any service that can contribute to make your visit agreeable and useful.

REPLY OF ONE OF THE MEDICAL STAFF.

I am happy, gentlemen, conjointly with my comrades, to greet you on this occasion, and grasp your hands, stretched out with so much friendliness and cordiality towards us, your brethren in science.

What confers an incontestable advantage on our profession, compared with others, is doubtless the absolute cosmopolitanism of the Medical art. For, whilst political combinations and other reasons render international relations sometimes friendly, sometimes hostile; whilst misunderstandings provoke bloody conflicts even among fraternal nations, of which we see unhappily sad examples at the present time in your country and our own; I will say further, whilst the fathers of churches make distinctions between their own flocks, Medicine alone never loses its

humane and philanthropic character; for there does not exist a country, however little civilized, where medical aid, even to a sworn enemy, is not the first and most sacred of duties.

We feel assured, gentlemen, that it is as much in the name of international sympathy as of science that you have opened your arms to us, your professional brethren; and we flatter ourselves that with the same kindness you will allow us to see your clinics, your hospitals, and other benevolent institutions, of which your imperial city possesses so great a number.

Thus deriving from your experience and your civilization treasures of science, we shall be able, with the liveliest gratitude, to impart to our colleagues in Russia the fruits of our observation among you, and teach them to appreciate, as we do, your kindness and national genius.

Medical News.

NEW YORK COUNTY MEDICAL SOCIETY.—At the Anniversary Meeting of the Medical Society of the County of New York, held Oct. 5, 1863, the following officers were elected for the ensuing year:—Alf. Underhill, M.D., President; Isaac E. Taylor, M.D., Vice President; Guido Furman, M.D., Recording Secretary; Henry S. Downs, M.D., Corresponding Secretary; S. T. Hubbard, M.D., Treasurer. H. D. Bulkley, M.D., E. R. Peaslee, M.D., Joel Foster, M.D., Jos. K. Merritt, M.D., and D. S. Conant, M.D., Censors; Drs. Jas. Kennedy and Jos. K. Merritt, Delegates to the State Med. Society for three years. The meeting was well attended, it being the largest one since Oct. 12, 1846, which was an adjourned anniversary meeting.

From the Secretary's report we learn that the "comitia minora" had held eleven, and the society nine meetings during the past year, and that twenty-three new members were admitted during the same period, and that no less than eleven members were removed by death during that time.

The hour being late, the election of delegates to the American Medical Association, and the appointment of committees, etc., will be continued at the adjourned anniversary meeting, on the first Monday of November next.

SURGEONS IN THE LIBBY PRISON AT RICHMOND.—The following is a list of the Union surgeons still held as prisoners in the Libby Prison at Richmond, contrary to all the positive and definite agreements hitherto made in regard to these prisoners.—Surgeons W. M. Houston, One Hundred and Twenty-second Ohio, captured June 15; W. F. McCurdy, Eighty-seventh Pennsylvania, June 15; Alston W. Whitney, Thirteenth Massachusetts, June 20; W. A. Rodgers, Third Tennessee, June 19; W. Spencer, Seventy-third Indiana, April 30; J. L. Morgan, Tenth Massachusetts, May 13; C. E. Goldsborough, Fifth Maryland, June 15; Lewis Applegate, One Hundred and Second New York, July 2; T. C. Smith, One Hundred and Sixteenth Ohio, June 15; A. A. Mann, First Rhode Island cavalry, June 18; R. P. McCandless, One Hundred and Tenth Ohio, June 16; A. S. Looker, Sixth Illinois cavalry, May 20; C. T. Simpers, Sixth Maryland, June 15; F. M. Patton, Twelfth Virginia, June 15; O. Nellis, Second Virginia cavalry, July 19; W. W. Myers, United States steamer Georgia, May 14; M. F. Bowen, Twelfth Pennsylvania cavalry, July 15; J. L. Brown, One Hundred and Sixteenth Ohio, June 15; — Ketchum, Eighty-third New York, June 29; D. B. Wren, Seventy-fifth Ohio, June 20.

D. H. STEUDNER, one of the staff of the German expedition to Central Africa under Baron Henglin, has died of fever after having passed through the dangerous miasmata of the morasses of the White Nile.

Original Lectures.

LECTURES ON THE MORBID CONDITIONS OF THE BLOOD.

DELIVERED AT
THE BELLEVUE HOSPITAL MEDICAL COLLEGE.

PRELIMINARY TERM, SESSION OF 1868-4.

By AUSTIN FLINT, M.D.,

PROF. OF THE PRINCIPLES AND PRACTICE OF MEDICINE.

LECTURE I.

General Remarks on the Importance of the Blood.—Classification of the Constituents of the Blood.—Morbid Conditions relating to the Organized Corpuscular Elements.—Plethora.—Anæmia.

GENTLEMEN:—I have selected as the subject of the few lectures assigned to me during the preliminary term, the morbid conditions of the blood. I have selected this subject with reference, not so much to its attractiveness, as to its great importance. With our present pathological views, the question as to the existence of morbid conditions of the blood enters into the consideration of a very large proportion of diseases.

As expressive of the importance of the blood, it is distinguished as the *vital fluid*. In literature and common parlance, it represents life. "Life's blood" is a common expression. To have one's blood is to take life. Its importance is shown by the fact that its presence in all the so-called vital organs is indispensable to the exercise of their functions. A striking and familiar illustration of this fact is afforded by the temporary loss of the mental faculties and consciousness, as a result of a momentary arrest of the supply of blood to the brain, in syncope or fainting. The blood, in fact, may be said to be the grand condition of vitality. Its detention from a part occasions the molecular death of the part, i.e. gangrene or sphacelus. Its abstraction, beyond a certain limit, from the body, occasions general or somatic death. The suspension of its distribution by an arrest of the heart's action for two or three minutes only, is fatal. It forms a vital medium for all the organs essential to life, on which they are dependent, as the body or the blood itself is dependent on the surrounding atmosphere. The physiological relations of the blood to the solid parts being so intimate, it might reasonably be expected, *a priori*, that pathological changes in this fluid should give rise to corresponding morbid phenomena in the organs and tissues of the body. Observation shows this to be true. There are grounds for the belief that a large proportion of the morbid actions and changes which occur in the solid parts, are due to prior alterations in the blood. In many instances, as will be hereafter seen, the dependence of the former on the latter may be inferred, or rendered probable, although not demonstrable with our existing knowledge. Supplies for the growth and repair of all the body are contained in the blood. This fluid, therefore, represents, in its constituents, all the elements which enter into the composition of all the solid parts. It is taking but a step from the prosaic walks of scientific fact to the domain of fancy, to say that the blood is the solid body in a liquid state. "The blood is the centre round which the general metamorphosis of animal matter revolves, and in which it is perfected."* It might be rationally predicted that morbid alterations in its composition and distribution may lead to diseases seated in the solids, and this will be found to be the case. Another aspect foreshadowing the importance of the blood in its pathological relations, is its office as a reservoir for the accumulation of effete principles, the detritus of the tissues, which are to be eliminated by excretion. Here is a

source of disease, as will be presently seen. Again, the physiological activity or mobility of the blood is very great. In this respect it is in striking contrast to the solid parts. It is the seat of unceasing changes, and yet, in health, maintains a uniform state as regards its organization and composition. New matter, derived from ingesta, is daily added in considerable quantity, and a proportionate amount is derived from the decomposition of the tissues. Portions are appropriated by the different structures. Other portions are secreted for various useful purposes in the economy. Other portions are thrown off or excreted. There is a constant interchange of gaseous elements with the surrounding atmosphere by means of respiration and through the cutaneous surface. Thus, it is the seat of constant and great changes, denoting wonderful activity, and yet its constitution remains the same. In this fact are admirably exemplified the precision and adaptation of the laws presiding over the safety and welfare of the organism. But this activity necessarily renders it more liable to morbid actions and conditions than the solid parts, which in health are less active and more stable.

The blood is a complex fluid. It contains a large number of ingredients, preserving, however, certain fixed anatomical characters. Anatomically considered, it consists of certain corpuscular bodies, viz. the red globules, the white globules or leucocytes, and globulins, which are suspended in a liquid called the *liquor sanguinis*, blood-plasma, or intercellular fluid. These are resolvable, by analysis, into numerous elements, some of which are organic, i.e. peculiar to organic bodies, and others inorganic or mineral. Examples of the organic elements are, fibrin, albumen, hæmatine, etc. The inorganic elements embrace various saline ingredients, iron, water, and several gases. Further details belong to anatomy and physiology. It is necessary thus to glance at the composition of the blood, in order to arrange its morbid conditions. These conditions relate to the different constituents of the blood; and, with a view to the consideration of pathological changes, the latter may be distributed into three groups. The first group will embrace the corpuscular, distinguished also as the organized, constituents. The second group will consist of the organic elements. The third group will comprise the mineral substances. Morbid conditions, affecting, severally, these three groups, will be first considered in the foregoing order, and afterwards, morbid conditions due to the introduction into the blood of substances which do not enter into its normal composition. Even with our present imperfect knowledge of the blood in health and disease, it is, in itself, a large field of study, which, considered as a distinct province of medicine, is called *hematology*.

Of the corpuscular or organized constituents of the blood, the most abundant and important are the *red globules*. The known morbid changes affecting these, relate, in the first place, to their number. They may be morbidly increased or diminished in number. An increase of the number of red globules beyond the healthy limit constitutes the morbid condition called *plethora*. A diminution below the limit of health constitutes the morbid condition called *anæmia*.

The relative proportion of the red globules to the other constituents of the blood may be increased by diminution of the latter. This obtains in a marked degree in epidemic cholera, owing to the draining away through the intestinal canal of the water of the blood, together with various elements held in solution by the transuded liquid. The density of the blood in this disease is notably increased; it becomes thick and heavy, and the circulation is mechanically impeded. Under these circumstances, the red globules are relatively in abnormal excess, although they are actually less in number than in health. The term *plethora* is only applicable to an actual increase of the number of the red globules. This is now the significance of the term, without regard to the quantity of the mass of blood. An increase of the mass, causing over-repletion of the vessels, does not constitute *plethora*, although implied in the ety-

* Lehmann.

mology of the term. This condition is called *polyemia*. Its existence to an extent sufficient to constitute a morbid condition of importance, is doubtful.

The functions of the red globules in health are not fully understood. Their relative normal ratio to the other constituents of the blood differs considerably in different animals, and they appear to sustain a certain relation to vigor, strength, and activity; that is, they are abundant in races, breeds, and individuals, in proportion as the general attributes of the body just named are marked. Their importance is shown by the fact that animals bled nearly to death may be reanimated by injecting into the veins red corpuscles suspended in serum, and not by the introduction of the other constituents of the blood without the red corpuscles. From what is known of their physiological relations, it might be inferred that the effects of their morbid excess would be over-activity of the circulation and undue excitement of organs in proportion to their normal activity and the quantity of blood which they receive in health. The phenomena of plethora denote these effects. The power of the heart's action is increased. The temperature of the body is raised. The brain is stimulated, giving rise to unusual mental energy and excitement. Sensibility and muscular irritability are augmented. In comparing, however, different persons, it is not easy to draw the line of demarcation between more or less intensity of the so-called sanguine temperament and plethora. A better idea of plethora, as a morbid condition, is formed by a comparison of the same person at different periods, and especially if the person have naturally a temperament not notably sanguine. He acquires more color in the prolabia and face. The mucous membranes are reddened. The pulse is full and strong. The heart's impulse is increased. The physical and mental powers are more active. The body is notably warm. Pain in the head is readily induced by stimulants or mental excitement, owing to the abnormal power of the circulation. This condition involves a liability to active cerebral congestion. It is supposed to constitute a predisposition to acute inflammations. It doubtless tends to render inflammations more intense, and to increase the symptomatic febrile movement. It may favor hemorrhages, especially into the brain, by means of the increased force of the circulation. On the other hand, an abundance of red globules exempts from nervous disorders, to which, as will presently be seen, a paucity of red globules predisposes.

The causes of plethora are, first, a constitutional tendency, which may be congenital and inherited; second, overfeeding, with the use of generous wines and condiments; third, diminished expenditure of blood constituents in nutrition, incident to ease, idleness, and luxurious habits, the digestive and assimilative functions remaining active; and fourth, the arrest of periodical or habitual hemorrhages, or some other drain to which the system had become accustomed. These several causes are frequently combined.

It is important for the physician to appreciate the condition of plethora, in order to avert the evils to which it tends, by appropriate management. And, as an incidental element in different diseases, it is to be taken into account in considering the effects of therapeutical measures. It is relieved, for the time, most promptly and efficiently by bloodletting. An immediate effect of the abstraction of blood is a notable reduction in quantity of the red globules. Of course, the propriety of resorting to bloodletting will depend on the degree of plethora and the apparent imminency of evil results. Other means to diminish the excess of red globules are, a reduced diet, as regards the quantity and quality of food, and exercise, in order to increase the expenditure of blood-elements in repairing muscular waste, and render the amount of eliminated matter more abundant. Certain medicines appear to exert a direct effect upon the number of red globules. Mercury is such a remedy, as shown by the pallor which accompanies salivation. Mercurialization, however, is never indicated for the attainment merely of this object.

It is important not to confound plethora with other morbid conditions of the blood or circulation. Fulness of the vessels, due to some impediment to the circulation, has not unfrequently been considered as plethora. This may exist where the red globules are diminished, rather than increased. A pseudo-plethora, for example, is not uncommon in pregnancy, the red globules being diminished in this state. Bleeding was formerly employed with reference to this pseudo-plethoric condition, of course with an injurious effect on the constitution of the blood. With pseudo-plethora, or fulness of the vessels, there is often evidence of deficient oxygenation of the blood, together with dulness and oppression instead of heightened activity of the functions of the brain and other organs. True plethora is to be determined by the symptomatic phenomena which have been mentioned, taken in connexion with the evidence afforded by the pulse and other symptoms of an unobstructed, free circulation, with the activity of the digestive and assimilative functions, and the existence of one or more of the conditions under which this morbid condition is known to be produced. A microscopical examination of the blood may suffice to determine the existence of the plethora, if the observer be sufficiently practised to decide whether the red globules in several successive specimens are in excess or not. It may be determined by quantitative analysis, but the process is too tedious and delicate for ordinary clinical purposes.

As regards the essential pathological nature of plethora, all that can be said is, it consists in a hypergenesis of the most important of the organized or corpuscular constituents of the blood, the red globules. The pathologist might expect to explain this morbid condition more fully, if the physiologist were able to tell us where and by what process the red globules are normally produced.

A morbid diminution of the red globules of the blood constitutes *anæmia*. The etymology denotes diminution of the mass of blood, but, conventionally, the term is used to signify reduction of the quantity of red globules. *Spanæmia* is sometimes used in the same sense.

The purest exemplification of *anæmia* is afforded by cases in which it has been produced by copious hemorrhages or repeated bloodlettings. It is not easy to effect, except for a transient period, a considerable reduction in the mass of blood. After a loss by hemorrhage or bloodletting, the quantity of liquid which has escaped is quickly replaced, but the red globules are not so speedily renewed, and, hence, the latter continue for a greater or less period to be deficient. This condition is one of the forms of so called impoverished or poor blood. The degree of impoverishment varies. The proportion of red globules has been observed to fall below the normal range (120 to 130 in 1000 parts) to 70, 60, and even 21 to 1000 parts.

Anæmia is of frequent occurrence. It is incident to a variety of diseases. It gives rise to a multiplicity of phenomena. It is a condition highly important for the physician to appreciate and recognise. The knowledge of this condition obtained within late years constitutes one of the most striking of the characteristics of modern medicine in view of its importance on medical practice. It occurs much more frequently than the opposite morbid condition, viz. plethora.

In general terms, the pathological effects of *anæmia* are the reverse of those due to plethora. The power of the circulation is diminished, and there is a deficiency of the functional energy of different organs, the more marked in proportion to the quantity of blood which they receive in health. The phenomena denote these effects. The animal temperature is lessened. *Anæmic* patients have coolness of the surface, and especially cold extremities. They are not so able to resist cold as the plethoric. The action of the heart is feeble; the pulse is small, weak, compressible. The action of the heart is easily disturbed, becoming rapid from slight causes, and

frequently irregular. The mental energy is diminished; persons are not adequate to the intellectual efforts of which they are capable in health. The strength of will and determination of purpose are impaired. The vital functions are languidly performed. The muscular strength is diminished. The surface is pallid from the deficiency of the hæmatine or coloring matter contained in the red globules. This pallor is apparent in the face, and especially the prolabia. The mucous membranes accessible to view have less redness than in health. The countenance at once denotes the existence of anæmia if the condition be marked.

It induces a multiplicity of morbid phenomena arising from disordered action of the nervous system. The relations of the blood to the functional activity of the nervous system are strikingly shown in the morbid phenomena pertaining to the latter, which spring directly from morbid conditions of the former. And the special relations between the red globules and the nervous system are shown by the phenomena incident to anæmia. These phenomena are numerous and diversified. The more frequent and prominent are as follows:—Mental depression, anxiety respecting health, hypochondriasis, irritable temper, want of buoyancy and energy, a feeling of lassitude and a painful sense of inertia or indolence. There is apt to be a feeling of incapacity for muscular exertion greater than the actual loss of muscular power. The physical and mental powers are especially depressed during the process of digestion. Palpitations frequently occur, so that organic disease of the heart may be suspected by those not conversant with physical means of diagnosis, and is greatly feared by the patient. Neuralgia in various situations is apt to occur, and in females hyperæsthesia of the abdominal walls simulating peritonitis. The varied symptoms which have been heretofore described as belonging to spinal irritation, are likely to occur in connexion with anæmia. It sustains a causative relation to nearly all the functional affections of the nervous system embraced under the head of the *neuroses*. A large proportion of persons affected with any one or more of this class of maladies are anæmic; and, conversely, a large proportion of anæmic persons become affected with neurotic disorders. It is highly important that this pathological element be taken into account in the management of the *neuroses*. When it occurs independently of the various affections with which it is connected incidentally, it is characterized especially by phenomena relating to the nervous system. These phenomena may be said to constitute the pathological expression of this morbid condition of the blood.

If it be asked, what is the explanation of the occurrence of these phenomena in consequence of a diminution of the red globules, the pathologist can only say that he may hope to answer the question when the physiologist is able to explain the normal relation between the presence of the red globules and the functions of the nervous system. Pathological facts show that an essential relation does exist between these two anatomical elements of the body. The nervous system depends on this blood-constituent for the manifestations of healthy life, and, hence, a deficiency occasions manifestations of disordered life, or morbid vital phenomena.

The causes of anæmia, when it exists independently of the various affections with which it is associated, are frequently obvious, but in some instances not assignable. It is a result of hæmorrhages, from wounds, flooding after labor, and in cases of menorrhagia, or injudicious blood-letting. It may proceed from deficient alimentation; the food being insufficient in quantity or not sufficiently rich in alimentary principles. It is caused by a loss of certain of the elements of the liquor sanguinis or blood plasma, which are necessary to the production of red globules. Thus, frequent causes are prolonged lactation and a rapid succession of pregnancies. The obvious causes may be arranged into the three classes just stated, viz. 1st, Causes which involve an actual loss of red globules, as in hæmor-

rhages; 2d, Causes involving a defective supply of materials for assimilation; and, 3d, Causes which occasion expenditure of the constituents of the liquor sanguinis on which the production of the red globules is dependent.

The causes are not always apparent. Anæmia is apt to occur in females at or near the age of puberty, where there has been no loss of blood, no deficiency in alimentary supplies, and no unusual expenditure of blood-plasma. Under these circumstances it constitutes the affection to which the name *chlorosis* was applied before the anæmic condition was fully understood. If this name be retained it should be considered as denoting anæmia occurring under the circumstances just stated. It appears to be in some way connected with the evolution of the reproductive functions. In some cases it may be accounted for by the derangement of the assimilative functions at this period. In these cases the appetite is poor, the digestion disturbed, and there is apt to be a craving for indigestible, innutritive substances, such as chalk, slate, coal, etc. Addison has described cases of anæmia occurring without any obvious causation, accompanied by general debility, which progressively increases, at length ending fatally without appreciable lesions of any of the vital organs. Cases of this kind are occasionally met with, especially in hospital practice. Addison distinguishes them as cases of "idiopathic fatal anæmia." In a certain proportion of these cases, the surface of the body, to a greater or less extent, assumes a dark discoloration or a bronzed appearance, and in several successive cases the supra-renal capsules were found to be more or less disorganized. Addison inferred from these facts a pathological connexion between disease of the supra-renal capsules and the bronzed hue of the skin. Clinical observation, however, shows that the two events are not uniformly associated.

In a large proportion of the cases in which anæmia exists, it is incidental to, or a pathological element of some other affection. And, as thus associated, it may, or may not, claim the special attention of the practitioner. Of the great number of diseases in connexion with which it is connected either constantly or frequently, the following list will inclose the more prominent.

1. Tuberculosis. Anæmia is generally early developed in tuberculous affections, and may precede the deposit of tubercle.

2. Carcinoma. The pale, waxy, or straw-colored complexion which characterizes some cases of carcinomatous disease, denotes anæmia.

3. The affections embraced under the name of Bright's disease. Associated with œdema of the face, the pallid complexion of anæmia becomes quite characteristic of these affections. The blood-changes which belong to these affections (to be hereafter considered) lead to diminution of the red globules.

4. A host of affections which involve expenditure of other constituents of the blood than the corpuscles, i.e. constituents of the *liquor sanguinis*, such as chronic dysentery and diarrhœa, chronic pleurisy, purulent formations in any part of the body, leucorrhœa, etc.

5. Affections which involve loss of corpuscles, or hæmorrhage, as menorrhagia, hæmorrhoids, hæmatæmesis, etc.

6. Affections compromising the assimilative functions by occasioning indigestion, vomiting, loss of appetite, etc.

7. Certain affections of the liver, and especially cirrhosis. It has been supposed that the red globules are produced within the liver. If this be true, diseases of this viscus may lead to their diminution by interfering with their production. But in cirrhosis this effect is due in a measure to the obstruction to the introduction of fresh alimentary supplies brought by the portal vein.

8. The periodical fevers, if protracted. The special cause of these fevers may induce anæmia even where the fevers are not developed. Persons inhabiting regions called miasmatic, are apt to become anæmic, although they do not experience fever.

Certain mineral substances introduced into the system

lessen the red globules in a notable degree. This is true of lead. Anæmia is a pretty constant element of saturnine diseases; and it is observed in persons exposed to lead emanations before becoming affected with the characteristic diseases. The same is true of mercury. Mercurialization quickly reduces the quantity of red globules in a marked degree.

Original Communications.

UPON GUNSHOT WOUNDS OF THE KNEE-JOINT, WITH CASES.

By JOHN A. LIDELL, SURG. U.S.V.,

IN CHARGE OF STANTON HOSPITAL, WASHINGTON, D.C.

THE surgical relations of gunshot injuries involving the knee-joint, are more important than those pertaining to any other articulation in the whole body, because of the greater size of the joint, and the superior danger which experience has shown to attend all derangements of its structure. Wounds of the osseous tissue belonging to this articulation, are much graver in character than wounds of the soft parts. It sometimes happens that a musket-shot hits the knee in such a way as to open the joint to greater or less extent, without breaking bone, and the patient gets well with a good limb. I have seen three cases of this kind, all of which terminated favorably. It happens more frequently, however, that a bullet impinges against the knee, in such a manner as to course along beneath the integument for a distance greater or less, in close relation to the synovial membrane, but without entering its cavity; and of such cases almost all make good recoveries, provided they are subjected to appropriate treatment. But if, on the other hand, the articulating end of either the femur or the tibia happens, at the same time, to be splintered by the bullet, the nature and character of the case are entirely changed. The patient will not make a good recovery. Sooner or later the joint will swell up, having become highly inflamed, great constitutional disturbance will also be developed, and the patient will ultimately lose his life if the limb is not removed by timely amputation.

But a bullet passing through the knee-joint does not always splinter the bone, or otherwise break it into fragments. It may cut a simple groove in the spongy epiphysis of the femur or the tibia, as the case may be, without doing any other mischief to the osseous structure. In this way a bullet may pass through that articulation, from before backwards, and the patient finally recover with a stiff joint. I have known one case of the sort.

The most dangerous cases, however, are those wherein the bullet enters the limb at a distance (greater or less) from the joint, and without opening the cavity of the synovial membrane, or perhaps without even coming into relation with it, shatters the bone in such a way that the fissures extend to the cartilage covering the articulating end of the bone, or even into the synovial cavity itself, if the splintering happens to be very great. The danger of these cases is much increased by their insidious character. The patient may do well for eight days or even two weeks after he is wounded, and then of a sudden be seized with great pain in the joint, followed speedily by heat, tenderness, and much swelling. At the same time he has constitutional disturbance in the shape of surgical fever and great restlessness. Now, if the traumatic origin of this arthritis happens to be overlooked, and if the case is put under treatment as if it had begun spontaneously, then the inflammation will extend rapidly from the joint to the thigh, and in a short time involve it so extensively, that, if the surgeon shall now wish to remove the limb by amputation, he cannot find healthy tissues through which to operate; and before long the thigh will be converted into

a vast abscess communicating with the joint. These are the so called cases of secondary inflammation of the knee-joint, and are certain to turn out badly if the limb is not amputated in season. As soon, therefore, as this form of traumatic arthritis develops itself, its exceedingly dangerous character should be recognised, and the limb cut off before the inflammation has had time to spread through the thigh in the form of diffuse cellulitis. In all such cases amputation must be performed early, if it is expected to save the patient.

With regard to the treatment of gunshot injuries, in general, of the knee-joint, I believe that in all cases of wounds of the soft parts alone, whether the synovial sac be opened or not, an effort should be made to save the limb, provided the loss of substance is not great. For this purpose the patient should lie still in bed, and have ice constantly applied to the seat of injury, quietude and ice being the most reliable agents for cure in such cases. If, however, the loss of substance be extensive, as in case of certain wounds inflicted by the explosion of shells, primary amputation should be performed. Again, if the bullet pass completely through the joint, cutting simply a groove on the articular surfaces, without comminution or splintering, I believe it to be our duty to try to save the limb; but if severe arthritis should supervene, it will then become our duty to amputate without delay. In all cases of wounds in the neighborhood of the knee-joint, associated with comminution and splintering of the articular end of either the femur or the tibia, amputation should be performed as soon as the diagnosis is made out. In some cases the diagnosis is readily made by exploring the wound with the finger; in other cases it will be difficult to make, and even uncertain, until the secondary arthritis has appeared, as happens when the shaft of the femur has been split by a conical bullet, the fissure extending to the knee-joint.

CASE I.—Private W. V., Co. D, 4th Pennsylvania Cavalry, aged 22 years, and of sound constitution, was admitted to Stanton Hospital June 24, 1863. He had received a gunshot wound in the neighborhood of the right knee June 20, four days previously. The bullet (carb-bine) entered the limb on its anterior inner face, a short distance below the joint, passed backwards and upwards, escaping through the popliteal space, apparently without opening the joint. From the course and direction of the wound we supposed the upper part of the tibia to be injured. At time of admission patient's condition was good. There was no pain, heat, tenderness, or swelling, in the injured knee. He was directed to refrain from using it, by remaining quietly in bed, to have ice applied to the wound constantly, so as to lessen the danger of inflammatory action therein, and to be supported by a nutritious diet. Under this treatment his case progressed without an untoward symptom, till July 5, eleven days after admission to hospital, and fifteen days after the infliction of the wound. At inspection on this day I specially noticed his condition as very promising, the anterior orifice of the wound being nearly healed. But about the middle of the following night he was seized with great pain and distress in the injured knee. The officer of the day was called to him, and administered morphia in full doses, but without producing much relief. July 6, morning.—He complains of intense gnawing pain in the right knee; it is much swelled, hot, and exceedingly tender: he cries out from agony occasioned by pain, although the pupils are markedly contracted, from the large quantity of the anodynes taken; countenance expressive of great distress; pulse frequent, quick, and irritable; skin hot and dry; has thirst, and a coated tongue; has had a slight chill. Ordered free abstraction of blood by cups from the neighborhood of the knee. Hydrarg. chlor. mit. grs. x., and anodynes, to make him comfortable, if possible.

July 7.—Morning: Patient's condition not materially changed from yesterday. Seeing that the arthritis was secondary to a gunshot wound, and believing that it was associated with fracture and comminution of the upper end

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, May 13, 1868.

DR. D. S. CONANT, PRESIDENT, IN THE CHAIR.

LIPOMA.

DR. VOSS presented a specimen of lipoma from the side of the right tibia of a patient aged but seven months. The mother said that when the child was but four months old, she noticed a small growth on the side of the leg, about the size of a pea, and since that time the tumor grew rapidly to the size of a small orange. The supernatant skin was firmly attached to the growth. Though no diagnosis of the nature of the disease was made, Dr. Voss was nevertheless inclined strongly to favor the supposition of malignant disease. On removal, it was found to consist simply of fat. The specimen was interesting, in the first place, on account of its situation, and in the second place, in reference to the age of the patient.

DR. VOSS recollected a somewhat similar case which occurred in his own practice. The patient was a boy but a year old, who had a lipoma a little larger than the one presented, but situated on the lumbar region.

NECROSIS OF LOWER JAW.

DR. VOSS presented two sides of the lower jaw, together with several smaller pieces, which he had removed from a child seven years of age, on account of necrosis. The Doctor saw the child for the first time in October last, and found the jaw very much swollen, and there was also a foetid discharge from some fistulous openings in the mouth. By introducing a probe into these openings, the nature of the disease was readily discovered. Previous to the attack of periostitis, which, by the way, occurred simultaneously on the two sides, the child had never suffered from any sickness. The dead portions of bone were removed from the inside by enlarging the fistulae, and consisted of the two articular processes, coronoid processes, angle, and that portion of the body of the bone not included in the chin. Subsequently to this, various other pieces of bone were removed, including several of the teeth. The patient made a good recovery, the wounds healed up kindly, and new bone has appeared in place of that which has been removed. There is no deformity perceptible, save a retraction of the chin and a want of prominence at either angle of the jaw. In consequence of this retraction, the tongue is thrown back somewhat upon the larynx, and the child has a slightly noisy respiration. It was the intention of Dr. Voss to show the child in connexion with the specimens, but the inclemency of the weather prevented.

DR. ELLIOT remarked, that in a case where Dr. Carnochan removed the entire lower jaw, the deformity was not enough to be noticed by any save a professional person.

DR. GARRISH referred to the case of a child, five years of age, who lost three-fourths of the lower jaw by necrosis, the result of salivation from only four grains of calomel given at a dose.

DR. VOSS stated that there were no evidences of either phosphorus or mercury acting as a cause of the disease; in fact, he was at a loss to decide what was the cause, unless, perhaps, the second dentition might have had something to do with it. It was certainly very strange to him how both sides of the jaw were simultaneously affected.

TUMOR FROM CICATRIX.

DR. POST presented a small tumor removed from an old cicatrix. The patient was 50 years of age, and fourteen years before had a tumor, supposed to be cancerous, removed from the epigastric region. It was situated four inches above the umbilicus, almost exactly in the median line beneath the abdominal integument, its deep surface

being in close proximity with the abdominal aponeurosis. It had been but five months in growing to the size of a goose-egg. As no microscopical examination had been made of it, it was moved that Dr. Voss be a committee to report upon its composition at the next meeting.

DISEASE OF COLON—APOPLEXY.

DR. LEWIS SMITH presented a portion of the colon which had been removed from a man who died at the age of 50 years. Dr. Smith knew nothing of the case previous to the autopsy. The patient had had pretty good health until about a year before his death, when he was attacked with apoplexy, followed by paralysis of the left side, which, however, gradually disappeared, though the mind remained impaired. Three or four months before his death he had symptoms of gastro-enteritis, and from that time until his death he complained of a good deal of distress in his bowels, and suffered from constipation. There was also present a good deal of meteorism, and his attending physician thought that he detected serous effusion in the abdominal cavity. About three days before death the patient had a second attack of apoplexy, from which he never recovered.

The autopsy revealed a considerable amount of serum in each pleural cavity, the result of a non-inflammatory effusion. The heart was considerably enlarged, but the valves were perfect; the ascending aorta and transverse portion were considerably enlarged, and there were found patches of atheroma over the inner surface of the vessel. The stomach was somewhat distended, and its mucous membrane thickened, as was also the mucous membrane of the duodenum. The jejunum and ileum seemed normal. The colon was found eight feet in length, and its mucous membrane was vascular and much thickened. The vascularity presented a slate-colored appearance, proving that the inflammation had existed for a considerable length of time.

On removing the calvarium the surface of the brain was found less vascular than usual. The lateral ventricle of the left hemisphere was filled with liquid blood, and at its side in the substance of the anterior and middle lobes, the brain substance was lacerated to the extent of three inches in length by three in breadth, inclosing a clot of the same side. A little blood had passed through the foramen of Munro into the right ventricle, and had settled into the posterior cornua. In the right ventricle were also found the remains of the old clot, which had of course existed there for about a year. In its centre it had undergone the calcareous change. On microscopical examination the calcareous substance was found to consist of carbonate of lime, together with crystals of cholesterine. There were no evidences of laceration of the brain substance as the result of the previous attack of apoplexy.

GUNSHOT WOUND OF NECK.

DR. FINNELL exhibited the results of a gunshot wound of the neck. A man, twenty-five years of age, was shot in the neck about four weeks before, the ball entering in the right side, on a level with the cricoid cartilage. The shock which followed the injury, was considerable, and when the patient was first seen by Dr. Finnell, a surgeon was endeavoring to extract the ball. A probe had been passed into the opening, and had been felt near the mastoid process; and the surgeon, being convinced that the ball was to be found in that neighborhood, had made a counter-opening with a view of coming down upon it. He, however, did not succeed in finding it, and Dr. Finnell had the patient removed to St. Vincent's Hospital. Soon after the admission of the patient, it was evident that extravasation was going on in the deep tissues of the neck. The hemorrhage from the bullet wound was very slight. At nine the following morning, two hours after the injury, the patient was found suffering a great deal from difficulty of swallowing, and also dyspnea; the tumefaction in the neck was steadily increasing, and it was very evident

that something should be done to relieve the patient. Accordingly, at one o'clock, sixteen hours after the injury, Dr. Finnell made an incision by enlarging the original wound, in order to explore for bleeding vessels, at the same time to relieve the tension of the parts. The incision was carried across the neck to meet the counter-opening that had been made. The sterno-cleido-mastoid muscle was cut across, and on its posterior surface a small vessel was found severed, and was tied. A large quantity of clotted blood was thrown out from under the fascia, and the patient at once experienced great relief. An exploration was made, but on account of the burrowing from extravasation, no track of the bullet could be found. Immediately after being wounded the patient complained of numbness in the right arm and right hand. The wound was carefully closed after the operation, and the patient was left in the care of the House-Surgeon. Everything went on well until the eleventh day after the injury, when there was a sudden gush of blood from the wound, which left the patient almost pulseless. The House-Surgeon, who was immediately by his side, carried his thumb into the wound, and made compression, succeeding in arresting any further hæmorrhage; but the patient had lost too much blood to recover, and gradually sank and died in the course of five hours afterwards.

On post-mortem examination the ball was found to have passed directly posterior, lodging in the transverse process of the sixth cervical vertebra. The opening made by the ball was hardly large enough to admit the introduction of a good-sized catheter, but the ball, in striking against the bone, had so flattened itself out as to cover three times as much space. The vertebral artery was found severed in the situation of the bullet, and it was from this source that the hæmorrhage occurred which produced the extravasation; but the fatal hæmorrhage was caused by sloughing through of the coats of the common carotid artery, the result of injury received in the transit of the missile. The numbness of the arm and hand was explained by the pressure of the bullet upon one of the branches of the cervical nerves.

The tongue, larynx, and œsophagus were exhibited, giving evidences of extensive submucous infiltration.

The specimen was interesting in several points of view, but particularly with reference to the illustration which it afforded of the want of reliability in the course which a probe may take when there has been extensive extravasation.

FIBRO-RECURRENT TUMOR.

DR. SANDS exhibited a fibro-recurrent tumor, the size of an English walnut, which had been removed from the cheek of a child twelve years of age. The disease first began to make its appearance about two years ago; it grew gradually without giving pain, and although affecting the general health, there was no lymphatic enlargement. The tumor had a somewhat pyriform shape, cut hard, was of a mottled red and white color, and yielded on section a juice which was suspended in water. Yet, notwithstanding its gross appearances, it gave all the characteristics under the microscope of a fibro-recurrent tumor; there were seen elongated, fusiform, and caudate cells, with nuclei and minute nucleoli, together with free nuclei and nucleated nuclei. There was also a stroma of a fibrous tissue.

INTRA-UTERINE TUMOR.

DR. SANDS presented a second specimen for which he was indebted to Dr. Livingston. It consisted of an intra-uterine tumor removed by post-mortem examination from a patient forty-five years, married, and the mother of several children, the youngest child being twelve years of age. When the patient first consulted Dr. Livingston she complained of a serous discharge. She was examined by Dr. Livingston, who recognised the existence of a tumor within the uterus. The examination was conducted by means of the uterine sound, but the size of the tumor was not estimated. The menstrual function had always been

well performed, and there had been no hæmorrhages previous to that time. The woman passed from under the notice of Dr. Livingston until a few months ago. She was then very much emaciated, having just recovered from a severe hæmorrhage, which she had suffered from a month or two previous. She finally died of exhaustion.

On making the autopsy he discovered the tumor situated in the interior of the womb, having a very extensive attachment to the fundus and anterior wall of the organ. The growth had so much distended the uterus as to give the appearance as if in the fifth month of pregnancy. The mass was covered throughout its whole extent by mucous membrane. Dr. Sands thought that the question of removal might come up in this case, and be entitled to very serious consideration.

DR. POST remarked that Dr. Atlee, in his Prize Essay on uterine tumors, speaks of a variety of tumors within the uterus similar to the one presented, in which he succeeded in nucleating.

DR. VOSS had seen Dieffenbach remove an intra-uterine tumor, weighing seven pounds, by means of a curved scissors.

DR. MARKOE remarked, that the specimen was a very interesting one in reference to the question of removal. He stated that tumors within the uterus were divided into classes:—1st, Those partly within the uterus, and partly without, and, 2d, Those wholly within the organ. In the first class removal was possible by means of incision through the vagina. Operations of that sort were not unfrequent, but the removal of tumors of the second class, though occasionally reported in the foreign journals, was very rarely performed in this country. He had a case of the sort in a lady who had borne several children, and whose menstruation had gradually grown more and more profuse, until it had amounted to alarming hæmorrhages. On examination a tumor was found attached to the posterior surface of the organ, and after dilating the os sufficiently to get at the mass the Doctor concluded to attempt its removal. After failing with several instruments to accomplish the purpose he resorted to his finger, and enucleated the mass piecemeal. The result was a perfectly satisfactory one. She did perfectly well for eighteen months, when, however, other tumors developed, and increasing, have crowded the organ up into the abdomen. In consequence of the situation of the organ she is now troubled no more with hæmorrhages. The tumor removed was about the size of the one presented by Dr. Sands.

DR. POST stated that Dr. Atlee recommended in cases of uterine tumors, attended with hæmorrhage, an incision upon their surfaces.

The Society then adjourned.

In the last number of the *Social Science Review*, Dr. Richardson calls attention to the "Greek fire," lately brought into especial notice through the siege of Charleston: "The construction of modern 'liquid fire,'" he says, "is based on simple scientific principles. I think that it might be so formed that it would actually burn under water. The principle is this: a rapidly oxidisable substance is suspended for a time through a liquid, in which it is held innocuous so long as the two are confined together, but from which it is separated spontaneously when both are set free in the open air. The modern chemist who first brought liquid fire into notice was Mr. Wentworth Scott. Mr. Scott suggested the principle about eleven years ago, and during the Russian war he was untiring in his efforts to get it into use in our army and navy. An official board received Mr. Scott, heard his plans, nibbled at his idea, and then repudiated it. After tantalising Mr. Scott, our circumlocutionists became acquainted with another gentleman who proposed a liquid fire, but who, I believe, in the end was gently dropped also—I mean Captain Disney. At last, that which the English nation, or rather Government, refused to study as a means of warfare, has been turned to practical account in America.—*British Jour.*

American Medical Times.

SATURDAY, OCTOBER 24, 1863.

EFFICIENCY OF THE ARMY SURGEON.

THE medical staff of our volunteer army has been subjected to much scandal and harsh and unjust censure for alleged incompetency. It has, in truth, become popular to talk disparagingly of the army surgeon, and sweeping denunciations are made against the entire staff on account of the reprehensible conduct of individual members. It is rare, even in our own profession, that the position of the volunteer surgeon before and after entering the army is correctly appreciated. In an address before the Albany County Medical Society, Dr. S. OAKLEY VANDERPOEL, late Surgeon-General of this State, has given his large experience in relation to the qualifications of surgeons, and of the manner in which they have performed their duties. We shall be pardoned for quoting freely from this interesting address, which has not been published. Dr. V. speaks with authority upon the subjects which he touches, for few have been brought in contact with a larger number of volunteer surgeons.

He discusses the duties of army surgeons under the following heads, viz. 1st, as hygienists; 2d, as physicians; 3d, as surgeons. He remarks that the mass of the community, indeed the mass of physicians, limit the province of medical men to simply *caring for the sick*; with convalescence their responsibility and labor cease. It is comparatively of recent date when that higher element has been distinctly recognised and studied—the prevention of the causes of disease, and their removal from those in health. Nor is it strange the former idea should be the one prominent. The great mass of medical men who have entered the military service are necessarily from the country or from small communities. A man living among rich fields, wooded hills, and running streams, has little cause to study and avert those thousand poisonous influences which beset at once an aggregation of individuals; and the physician practising in such a community would hardly know of hygiene and its laws, except as by curiosity he might read of it in the literature of the day.

He states that no report has come to him more frequently than the following:—A camp is formed in which are rapidly congregated from five hundred to a thousand men. They come in, individually hardy and robust; their bronzed countenances, brawny arms, and stalwart forms mark them as the finest type of physical development. The surgeon, perhaps excited, and it may be bewildered by the novelty of his position and duties, is surprised after a while to find that men who presented themselves only a short time previous as recruits in the full vigor of health, are attacked one after another by some zymotic agency; his little hospital is soon filled, additional accommodations are sought, and he is most assiduous in his care upon the sick. He exercises an enlightened judgment, skilful practice, and yet his sick recover slowly, the mortality is large, and the numbers on the increase. The officers and men lose confidence in him, and the mortality is pointed to as an evidence of incompetency; the surgeon was clearly at fault. It did not occur to him that the close,

warm barracks, in which the men are packed closely as bees, in the construction of which but one idea has prevailed, how best to keep *out the air*, was the silent, wary poisoner of his men; that their aggregation in quarters far too limited for the number, without the least provision for ventilation, indeed with every obstacle to prevent it, the confined exhalations of the men, the want of cleanliness in persons and quarters, the change of diet, the irregular habits at once contracted; all matters which fall under his direct province, and concerning which, if he had been fully conversant, very much of his subsequent troubles would have been averted.

Or follow the men in their first essay at camp-life, From the necessities of the service they camp on a level spot, without natural drainage, in a wet season. The tents are pitched with symmetrical precision, the military arrangements seem all perfected, and yet the men suffer exceedingly, and sickness is rapidly developed in the camp. *Diarrhæa*, a word more frequently in the mouth of the soldier than any other, is prevalent. The surgeon, judicious in his mere medical prescriptions, exhausts the *ars medicinæ* in vain. Still it is persistent, still are the numbers increasing. Here again he is at fault, in the simplest rules of hygiene.

Due attention has not been given to the first requisite—the proper drainage of each tent and street; the latrines have been located indifferently, more with an eye to convenience than the absolute necessity of locality, nor has proper attention been paid to throwing on earth day by day; the garbage and refuse of the camp are not systematically carried off and destroyed; more than all, the first essays of men wholly unsophisticated in the principles of cooking, have given to the men food totally unfit and indigestible.

A very little preliminary care would have prevented all. He had but to impress upon the officers the essential need of attention to the externals of the camp, to have taken a half hour each day and instruct the detail of cooks that their method of cooking could hardly be worse, that the effort to do it speedily would entail serious consequences, and much would be remedied. It is easy to make the hardest junk or the saltiest pork palatable, and to change the beans from bullets, as they are half the time served, to soft, nutritious food. If our surgeons, as a class, have come short in anything, it is in their knowledge and application of the laws of hygiene.

As physicians, they have proved themselves equal to the emergency. Most of the diseases of camp life, while severe in character, are comparatively simple in diagnosis and treatment. If the surgeon be but faithful and devoted he soon acquires the knowledge requisite for intelligent and proper treatment.

As surgeons, though they have fallen short of the standard necessary for a thorough and true performance of their duties, they have exhibited as high a standard of proficiency as the previous experience and opportunities would warrant.

Operative surgery is purely a practical art. He who becomes at all proficient must be engaged in its daily practice and be constantly exercised in its manipulation. The utmost precision in anatomical details, while of primary importance, will not alone render the operator skilful. He wants the cool head, steady hand, and confident assurance which daily exercise can alone confer. True, these are not

all the qualities that constitute the true surgeon, for there is a true philosophy to the art—a philosophy which only close study, careful observation, and a ripened experience can confer. In no department of surgery is this more essential, and yet, from the very necessities of the case, are the data more conflicting—so many extraneous influences arise—influences so foreign to the patient in private practice or general hospital, that deductions derived from data gathered there are wholly irreconcilable with experience upon the field. It is but right, therefore, that proper allowance should be made for any shortcomings of our army surgeons. Special study and experience are absolutely necessary before the surgeon can perform his duty properly.

This kindly appreciation of the difficulties under which the medical staff of the volunteer army has labored, will be grateful to the individual members. Heretofore they have received only censure, and that often of the most unjust and cruel kind. We do not doubt that impartial history will be as lenient in its judgment as the late Surgeon-General.

THE WEEK.

A Correspondent of the *London Medical Times and Gazette*, writing from the Army of the Potomac, makes the following statement in regard to the system of operating after each battle:—

"Previous to that time (battle of Antietam), it was the duty of the senior medical officer of a regiment to decide upon all the cases occurring in his command, and should his decision be operation, to operate; but the evils arising from this licence, this want of supervision, became plainly apparent, and to prevent in a great measure in future ill-timed, ill-judged, and badly-executed interference, a staff of officers in whom confidence could be placed was commissioned, in the event of a battle, to examine, decide, and operate, the duty of the others being restricted simply to dressing. That this plan works admirably the experiences of Fredericksburg, Chancellorsville, and Gettysburg have fully demonstrated. Not only do the patients receive the best Professional skill which the division can afford, but the Surgical history of the battle is better preserved. One officer in the Hospital does nothing but record in full the histories of the various cases, whereas formerly every regiment had a record to hand in, although every one did not furnish it. Some surgeons, through ignorance of the routine of military duty, and others through neglect, did not comply. It is not unusual also for papers in the field to get lost during their transmission from one official to another."

LONDON has been visited by an epidemic of small-pox, of great severity. It has now declined, but it has left a fearful record of its power. The *British Med. Journal* says:—

"It reached its climax in the month of May, the number of deaths for the week ending May 9th being 71, and for the four weeks ending May 30th, 268. The number of deaths for each of the four weeks of August was 49, 45, 39, and 31; the total for the four weeks being 164. For the first two weeks of September the numbers have been only 29 and 28. It is to be observed, however, that the disease is still far above its ordinary prevalence; and that the number of deaths increased considerably after the week ending July 25th, when it was only 34, and when the Registrar-General stated that there was 'reason to hope that the further spread of the small-pox in the metropolis had been checked.' Some idea as to the extent of the present epidemic may be gathered from the following facts:—"In 1861, the number of deaths from small-pox registered for the entire year was only 217; whereas the number for the

first eight months of the present year has been no less than 1600."

The Medical Colleges of this city have commenced their annual session. There is a considerable increase in the aggregate number of Students in attendance, showing a strong tendency to concentration of medical teaching in New York. As would be anticipated, the Schools that offer the best facilities for clinical instruction, attract the larger number of students. But few changes have been made in the schools during the past year. In the College of Physicians and Surgeons, DR. THOMAS has been appointed Adjunct Professor of Obstetrics; PROF. BUDD takes the place of PROF. BEDFORD, in the University Medical College; PROF. CARNOCHAN has retired from the N. Y. Medical College.

Reviews.

RELATIONS OF THE WAR TO MEDICAL SCIENCE.—The Annual Address delivered before the Westchester County [N. Y.] Medical Society, June 16th, 1863, by J. FOSTER JENKINS, M.D., President of the Society. New York: Baillière Brothers, Publishers, 1863. pp. 16.

IN this interesting address DR. JENKINS sets forth the labors of the Sanitary Commission with great vigor and truth. As an Associate Secretary of the Commission he has had large opportunities to become familiar with all its operations, and to trace the influence of its service upon the country and upon our profession. He says:—

"The Sanitary Commission appeals strongly to the approval of medical men, in that it has so steadily, from the inception of its trust, inculcated the importance of the observance of the laws of hygiene. Recognising from the beginning of its career the great truth that preventive medicine out-ranks in importance both alleviative and restorative processes, it has steadily promulgated it, in many publications, and by the urgent voices of its medical officers. 'A Treatise on Hygiene and Therapeutics,' by two eminent members of the New York Academy of Medicine; a compilation of 'Rules for Preserving the Health of the Soldier,' a monograph containing the conclusive evidence of the prophylactic virtue of the sulphate of quinine in warding off miasmatic disease; a tract of advice on camping; another on the value of vaccination to armies—are specimens of what it has attempted through the press. These have been circulated to the extent of many thousand copies by the Commission's agents, to medical and military officers, to non-commissioned officers and privates. Meeting the requirements of its charter from the President of the United States, which constituted it a 'Commission of Inquiry and Advice in Respect to the United States Forces,' it has in all our armies set on foot a series of inquiries almost exhaustive in their range, touching the many relations of hygienic law to life in camp, in bivouac, and on the march. These pertain to the character of the camp-site; the arrangement, drainage, and cleanliness of the camp; the character, ventilation, and arrangement of the tents; the bedding and clothing of the men; their personal cleanliness; the quality and source of the water; the character and abundance of the food, and the manner of cooking it; the recreations and discipline of the men; the provision of the camp hospital; the sickness and mortality existing, or recent, etc., etc., to every condition, in short, that has an ascertained influence on the health of men in armies."

"These inquiries are made, and the facts sought for are gathered, by medical men, selected for their intelligent familiarity with the applications of hygienic laws, their tact, and their qualification for independent observation, so that their eyes and ears, and the inferior organs even of taste and smell, may correct and modify inaccurate, partial, or wilfully false statements of careless or reluctant informants."

The preparation of monographs on special subjects was an important work:—

"The Commission has called into its service, or, rather, has

claimed the service for humanity, of distinguished medical scholars and writers, for the preparation of practical monographs on the diseases, or surgical injuries most liable to arise amid the vicissitudes of war. The names of Flint, and Metcalf, and Mott, and of the present Surgeon-General of the United States army, Brigadier-General Hammond, assure you that work intrusted to such men is not feebly performed. The sixteen monographs already printed have received a wide circulation in the army, and, besides their immediate benefit, can hardly fail, in due time, of a reflex influence on public health."

Another and perhaps still more important enterprise undertaken by the Commission was hospital inspection:—

"Another method in which the Commission is applying its resources to promote a knowledge of applied science, is by sending to each of the United States general military hospitals in the country, a surgeon or physician of recognised distinction, and wide experience in hospital management, who has had practical acquaintance with the needs and the deficiencies of hospital construction, who is familiar, as with his alphabet, with the conditions which invite disease or prolong convalescence, whether pertaining to construction and interior arrangement of the buildings, to the regimen or professional treatment of the patients, or to external circumstances, as the vicinage of swampy grounds or the neighboring nuisances of a populous suburb. You receive the names of Bowditch, and Buck, and Draper, and Post, and Reid, fallen, alas! at the post of duty, as those of experts whose judgment must be influential with the chief of the medical bureau, could he avail himself of it. It was on consultation with Surgeon-General Hammond, and by his advice, that this corps was engaged, six being kept in the field, successively, east, west, and south, and their reports, or the portions of them calling for remedial action or making recommendations, are by the chief of the corps, Dr. H. G. Clark, well known as a scientific sanitarian, transmitted in confidence to him. This inspection will prove of advantage not only to the occupants of the ninety thousand beds in the hospitals thus visited, in effecting improvements in hospital architecture and management, but by the final publication of such portions of the reports as may properly be given to the public, new light may be thrown on many points of hospital economy, and fresh illustrations be supplied of the laws of sanitary science."

He thus alludes to the reform of the Medical Bureau effected principally by the Commission:—

"When the war began, the requirements of law provided that the senior surgeon of the army should be the Surgeon-General, an arrangement that was liable to result in placing at that post an officer whose chief qualification for its varied duties of large responsibility was a good constitution carefully preserved. There was no bureau of medical inspection established by law, nor any legal requirement in this corps for its maintenance. There was little incentive, aside from natural taste, considerations of pride or conscientious impulse, to professional improvement, or especially zealous devotion to duty. Promotion, being by seniority of service, could not follow as a result of high qualification, nor, after the junior officer had passed his examination for a surgeoncy at the end of five years' service, was it retarded by incompetence or sloth. The tendencies of the system repressed the promptings of professional ambition, and favored contentment in the dry path of old routine."

"It was no merit of the system that so many medical officers rose above its debilitating influences, and made for themselves and for their corps a reputation going far to justify, by scientific attainments, as well as by manly and honorable bearing, the designation I once heard applied to them by an officer of another staff—the '*corps d'élite* of the army.' The commission felt that such a system was inadequate to the demands of the country—that the highest talent and the most interested devotion should be given to the discharge of the multifarious duties of the medical bureau. It urged its views upon the President, the Secretary of War, and upon Congress, and brought to bear on legislators, the organized sentiment of thoughtful men throughout the country. It met the objections of Prescription and Routine, and pointed out a more excellent way than ever their feet had trodden. By the influence of Public Opinion, moulded and organized and directed by the Commission, it is not too much to say, Congress, in April, 1862, passed a bill which, approved by the President, became law on the 16th of that month, and which introduced new features of the greatest value into the organization of the medical bureau."

"Besides increasing the number of officers in the lower grades, it added an Assistant Surgeon-General and a Medical Inspector-General, with the rank of colonel respectively, eight Medical Inspectors, ranking as lieutenant-colonels, and provided that these officers—as well as the Surgeon-General, who ranks as a brigadier-general—should be hereafter selected for merit and eminent qualification from the whole number of medical officers in service, whether of the regular or volunteer army."

"This is the first instance, so far as I am aware, in which legislation inspired the ambition of members of the medical staff, by associating their efficiency with the rewards of a laudable ambition. The assistant surgeon, ranking as lieutenant, could heretofore only expect to attain a captain's rank at the end of five years. Five to seven years more found him enjoying a surgeoncy, with a major's dignity, and there he felt that he must abide during his whole army life, as few men could rationally dream of surviving to a septuagenarian enjoyment of the only colonelcy, when he should become the senior surgeon and so Surgeon-General."

"A striking illustration of what was to be expected from the new law was given nine days later, when the President commissioned Assistant Surgeon William A. Hammond to be Surgeon-General of the army. It is well known, I believe, that the Sanitary Commission urged this appointment, but not on personal grounds, for only one of its members had ever seen him when their decision was reached that this would be the best appointment possible. But they presented his claims to the President and Cabinet, from his well-known devotion to science, his energy and executive ability, his comprehensive view of the great questions sure to arise in the administration of his office, and his evident readiness to meet boldly great responsibilities. His administration has justified the selection. He has introduced liberality and promptness into the purveying department of the bureau. He has greatly enlarged the supply table; has substituted for old hotels and seminaries, airy and ample hospital buildings, conformable to improved architectural models; has raised, by providing more rigid examinations, the scientific standard for admission into the army medical service; has sought legislation to enlarge the hospital fund, to improve the system of nursing, to provide for more extended inspection of camps, barracks, hospitals, transports, and stores; to establish a legalized and humane system of ambulance, and to render, by other enactments, the corps more efficient and the system more complete."

"By these efforts, by the just exercise of discipline, by his encouragement to scientific investigation, his fostering of army medical societies, his establishment of a museum of pathology, and his detail of accomplished members of the medical staff, to write the medical and surgical history of the war, he has kindled afresh, in the medical service, a zeal and an *esprit-du-corps* which can hardly fail to reach an enthusiasm noble in its aims, and, to scientific progress, fertile in result. It is barely a year since the medical bureau was fully re-organized by the President's appointment, and their confirmation by the Senate, of the corps of Medical Inspectors, the prime helpers of its Chief in securing an exact knowledge of the field before him. But the experience of this year indicates the increasing gain likely to accrue to science from this measure of reform. For, under such guidance, reform is not likely to go backward. Let us thank God and take courage."

THE annual meeting of the Vermont Medical Society was announced to be held at Montpelier on the 14th and 15th of October.

CORRECTION.—It was erroneously stated in the MEDICAL TIMES of Aug. 27th, that Dr. G. W. Varnum was in charge of the 15th Army Corps Hospital, at Vicksburg. Dr. C. McDonnell, U.S.V., organized this hospital, and has continued in charge to the present time.

PRESENTATION TO DR. W. W. STREW, U.S.V.—Dr. Strew, formerly of Oyster Bay, L. I., but now a Surgeon of Volunteers, in charge of the U.S. Army General Hospital, No. 11, Louisville, Ky., recently received from the officers of that hospital a valuable testimonial, consisting of a beautiful set of silver plate, a magnificent pitcher, two goblets, and a salver.

Correspondence.

IMPORTANCE OF PRELIMINARY EXAMINATIONS IN MEDICAL SCHOOLS.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—Your article in the TIMES of August 28, touches upon a subject of vital significance to the profession. You there suggest the importance of insisting upon an examination in the primary studies at least, preparatory to admission to our medical colleges.

Now, this idea at first may strike some as exceedingly chimerical, if not unreasonable. But, if we look at the actual status of the majority of the students in our medical schools, and compare it with what we all feel should be the standard, both for student and practitioner, we cannot fail to see that the good of the profession cries loudly for a reform.

And first of all, it is an undeniable fact that there are fewer graduates of colleges among the students of medicine than among the members of our law schools and theological seminaries.

In looking over the catalogues of two of our most prominent schools, I found that the proportion of graduates of colleges was only about one in five—a small ratio surely, making then the exception, and not the rule. Among theological students the rule is reversed. The non-graduates are the exception, and marked as such. And among the students of law, both in schools and offices, the proportion of educated men is far greater than among the students of medicine. Moreover, it is a fact, verified by all who have had opportunities of judging, that out of the five hundred that annually step forth from our New England colleges, not one in ten enters upon the study of medicine. Such, then, being the facts, is it not evident that many of the attendants of the lectures must be deficient in the essential preparation for thorough and successful study? Let me not be understood as deifying a college diploma. A pound of brains is worth a ton of parchment. It is true that our land contains no greater dunces than many that are annually crowned with laurel and degree. But still the eternal fact stands forth that, other things being equal, the difference between one man and another is the difference of opportunity. And the remark applies with peculiar force to the medical profession. Even Dr. John Brown, in his *Horse Subseciva*, while contending for the superiority of what he terms "*The With Brains*, sir," over education and culture, still asserts that a physician must be *capax* as well as *sagax*—capable of scholarship as well as sagacious in observation and discernment.

Education cannot create or confer creative power, but is an accession to that power. The physician needs genius and heart, but he needs more. He must have power of acquisition and love of labor. Unless he have the two last combined with the former, he ought never to deal with the minds, bodies, and souls of men.

Genius, combined with heart, unassisted by scholarship, may make an eloquent pulpit orator, and the history of the church glistens with bright examples. But medical biography affords no instances of any men who, by mere force of intuition alone, have become pillars or standards in science. Asclepiades, Paracelsus, and Chamberlin, the inventor of the forceps, were really brilliant men, and made startling innovations; but the fathers of medicine, Hippocrates, Galen, Sydenham, and Rush, were well-read, universally educated men. It is essentially a progressive science, and all that the most original mind can do is to add his own few mites to the accumulations of the centuries. For this reason, and then, the fact of so great a number of uneducated among our schools, there should be a system of examination on the essential preparatory studies.

It should not be such as to require the routine of a college course; but it should be such as to require careful and thorough study somehow, either alone or under instructors. Some of our ablest leaders in every department of thought and action have never seen the walls of a college, but hard and long they have toiled for themselves to complement their deficiencies of opportunity.

Again, such a system as here proposed would add dignity to the profession. At present your remark, "he is only fit to be a doctor," is only too truthful a statement of the popular expression. Ought this so to be? Viewed in its largest, highest, wholest scope, there can be no more noble profession than that of a physician. The pill and powder, the scalpel and bistoury, should be merely tools of the character behind them. The soul that lies deep within man is of more importance at the bedside than the technical knowledge of formalities. What practitioner has not noted with surprise often that remedies succeed in some hands that often fail utterly, administered by others? May not the reason of this difference of result, sometimes at least, be traced to the unconscious and impalpable moral influence that proceeds like the invisible electric current from the heart and mind through every word, look, gesture, or operation?

One thing is seen, the literary standard of our profession can be and *must be* brought up to a level with law and theology. It is already so in Germany. Yet in our land the impression remains, both among the masses and men of letters, that medicine is only a city of refuge for the renegades from every other profession, and that for an embryo-physician to devote his strength and time to miscellaneous and literary culture is to cast his rich pearls before swine. How erroneous, and yet how prevalent, is this idea! But can we blame communities for thinking thus, when a glance at our lecture rooms tells us that they must be half right in their impressions? But this is not all. Not only do uneducated men, and those whom poor scholarship or godless lives have ostracised from final graduation at our institutions of learning, feel free to enter upon the solemn pursuit of medicine; but even of those who enter with diploma in hand, very few indeed are men of the first literary ability, at least, to say nothing of their moral character. Law and theology monopolize the talent of our colleges. From extended observation I am prepared to assert that not *one in fifty* of the graduates of our New England colleges, and who become students of medicine, are men who were the intellectual leaders of their classes.

These facts all point one way. They show vividly the necessity of a thorough preliminary examination, such as you suggested, to give the profession the exalted name and place it deserves. Such a system of examination would exclude or stimulate those who hitherto have jumped from the unimproved district school to the medical lecture-room. It would exclude the worthless cast-offs of our colleges, those sapless leaves that fall to the earth, and are continually blown into our ranks. It would exclude even the diploma, if only ignorance and indolence were behind it.

May the bright day hasten when faculties shall dare to stand before the doors of their schools, armed with a clear, impartial examination, to repel the entrance of recklessness, immorality, and stupidity. And then every ambitious and intellectual youth can feel that in this most sacred calling he may find full scope for all the literary culture, all the scholarly attainments, all the familiarity with human nature, all the iron energy and wealth of feeling that give to character everywhere its power and beauty.

G. M. B.

WHAT IS HIS DINNER HOUR?

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—The following extract from a weekly religious paper is so truthful and suggestive that I beg you to insert it in the AMERICAN MEDICAL TIMES. It is rare to find a layman

who so thoroughly understands the little annoyances to which medical men are subjected.

What question is oftener asked of any in life? "What's his dinner hour?" Men may indeed say: "How d'ye do?" But that is a salutation; half the time we do not care whether it is answered or not. This is a question to which we expect an answer: "Is Mr. Blank in?" "No." "Is Dr. Good at home?" "No." "What's his dinner hour?"

Now, my friend, what is the motive for asking this question? Do you expect to dine with him? Oh no—you only want to see him. If you wanted an invitation to dinner, you would take a less direct way, but you want to see him. If the servant is green enough, he will tell you his dinner hour; and so when the weary man comes home from his business or his round of practice, perhaps hurrying lest he should be late, his dinner on the table, wife and children waiting, there you lie in wait like a spider for your victim. "Just a moment, I only want five minutes' talk with you." Who ever finished a talk in five minutes? It grows to ten, he rises, another five, the family have begun their dinner, or sit waiting and indignant. What is a dinner after it has stood on the table fifteen minutes?

"Just one minute more, Doctor." If a man says one minute, always multiply it by ten. At last he gets rid of you, and he is a saint if he does not follow you with a very left-handed blessing.

"Ah!" you say, "what a stir, merely because a man's dinner is put off, just once." Yes, that's it, "just once." Why, friend, remember that what you do to-day some one else will do to-morrow, and so it becomes a thing of daily occurrence. It is no small thing to spoil a man's dinner every day, to trouble his temper; it is really a matter of health and of principle; for when a man has worked hard he needs repose, and digestion is better with a quiet mind.

And what did you want? "Oh, his help about a situation for my son," or his opinion about a certain investment; or, if he be a physician, a professional opinion? Why not go then to his office at the proper time? "Oh, he is so busy then, I always have to wait." So then the whole thing resolves itself into selfishness, you want a favor, and in addition, though you could see him at a time he fixes, you prefer to sacrifice his convenience to your own, and so you ask: "What's his dinner hour?"

"But I expect to pay him." My friend, does money pay for such annoyances, and do you give any extra compensation for loss of temper and much vexation? I never heard of it. "But my time is valuable." It may be; but a man who is really busy, and values his time and is systematic, will appreciate the convenience of others, and not trespass on their rights. Busy! what were you doing the next morning, when he was ready to see you at his office? I saw you lounge for half an hour and smoke a cigar at your leisure. You were not going to have *your* comfort disturbed, and you spent another half hour later, in very unnecessary gossip with Mr. B. at his office: I saw you; but you were in a furious hurry soon after, and all for want of those two half hours.

Oh! for the Law of Consideration. If your business be for his advantage, he has a right to choose his own time or reject it; if you want him to do you a favor, you certainly are bound to consult his convenience. What is the Golden Rule? Answering that, your next question will not be: "What's his dinner hour?"

Army Medical Intelligence.

(CIRCULAR NO. 22.)

SURGEON-GENERAL'S OFFICE,
WASHINGTON CITY, Oct. 10, 1868.

The following letter from the Provost Marshal-General is published for the information of the medical officers of the army:

"WAR DEPARTMENT, PROVOST MARSHAL-GENERAL'S OFFICE,
WASHINGTON, D. C., Oct. 9, 1868.

"COLONEL:—I have the honor to return the enclosed communication from Medical Inspector Cuyler, and beg leave to state that the surgeons in charge of hospitals are directed in Paragraph VI., General Order No. 212, to forward to this Bureau rolls of all men reported by them for transfer to Invalid Corps, after each regular muster. Immediately on the receipt of these rolls in this Bureau, the Acting Assistant Provost Marshal-General of the State in which the hospital is located, is notified to receive the men whose names are on the rolls, and assign them to companies in the battalion to which they are reported to belong by the surgeon. Should any of the men recommended by him (the surgeon) for the second battalion be needed in the hospital for nurses, cooks, etc., they will be at once assigned to such duty. Full companies can be organized in hospitals where their services are needed, and officers will be assigned to command them, and will clothe, arm, and equip the men.

"Where no companies exist in a State from which rolls are received from a surgeon, then the Provost Marshal of the State is ordered to receive the men and hold them as a nucleus for the formation of a company.

"The names of the men thus reported are published in a General Order, which completes their transfer to the corps. The necessity for subsisting the men must necessarily exist until an officer is assigned to command them, when provisions will be drawn on a regular Company Return by that officer.

"As the number of officers of the corps is limited, and by no means adequate to its requirements at present, it is confidently expected that the surgeons will accord to us that patience and forbearance which we are led to expect from the great courtesy and hearty co-operation with which they have already favored the corps.

"I am, very respectfully,

Your obedient servant,

JAMES B. FRY,

Provost Marshal-General.

"COLONEL BARNES,

"Acting Surgeon-General, U.S.A."

By order of the Acting Surgeon-General:

C. H. CRANE,

Surgeon, U.S.A.

ORDERS, CHANGES, &c.

Assistant-Surgeon L. J. Comstock, 155th New York Vols., on detached duty at Harewood Hospital, Washington, D. C., has been ordered to join his regiment.

Surgeon Henry James, U.S.V., has been ordered to remove all the sick and wounded, able to travel, from the General Hospitals at Gettysburg, Penn., for Baltimore, Md., between the 20th inst. and 5th prox. Sick and wounded who are not fit to be removed, will be placed in charge of competent medical officers in the town of Gettysburg. Having performed this duty Surgeon James will report in person to the Surgeon-General.

The resignations of the following named medical officers have been accepted by the President, to take effect the days specified:—

Surgeon James W. Fitzpatrick, October 11, 1868.

Assistant-Surgeon E. Dodd, October 13, 1868.

" F. T. Dade, October 14, 1868.

" R. J. Lewis, October 14, 1868.

The commanding General, Department of the East, has been authorized to remove the sick and wounded prisoners at David's Island, New York harbor, to one of the smaller hospitals on Bedloe's Island, and to transfer the patients in hospital at Fort Schuyler to David's Island. The Fort Schuyler Hospital to be discontinued, and the buildings removed.

Assistant-Surgeon W. C. Spencer, U.S.A., has been relieved from duty in the Department of the Gulf, and will repair without delay to Washington, D. C., and relieve Assistant-Surgeon E. S. Dunster, U.S.A., now on duty in the Surgeon-General's Office.

Assistant-Surgeon E. S. Dunster, U.S.A., now on duty in the Surgeon-General's Office, on being relieved by Assistant-Surgeon W. C. Spencer, will proceed at once to West Point, N. Y., and relieve Assistant-Surgeon H. L. Sheldon, U.S.A., now on duty at the place.

Assistant-Surgeon H. L. Sheldon, U.S.A., now on duty at West Point, N. Y., on being relieved by Assistant-Surgeon E. S. Dunster, U.S.A., will report in person without delay to the Major-General commanding Department of the Gulf, for duty.

Surgeon R. H. Gilbert, U.S.V., is hereby relieved from duty with the Army of the Potomac, and will repair without delay to Philadelphia, Pa., and report in person to Surgeon John Campbell, U.S.A., Medical Director, Department of the Susquehanna, for duty.

Original Lectures.

LECTURES ON THE MORBID CONDITIONS OF THE BLOOD.

DELIVERED AT
THE BELLEVUE HOSPITAL MEDICAL COLLEGE.

PRELIMINARY TERM, SESSION OF 1868-4.

By AUSTIN FLINT, M.D.,

PROF. OF THE PRINCIPLES AND PRACTICE OF MEDICINE.

LECTURE II.

Anæmia continued.—Changes as regards the Conformation and Composition of the Globules.—Apnæa. Of the White Globules of the Blood.—Leucocythæmia.

GENTLEMEN:—The diagnostic criteria of anæmia are, *First*, deficiency of the normal coloration of the surface, due to the coloring principle which belongs to the hæmatine in the red globules. The defective color, or pallor, is most manifest on the face and especially the prolabia; it is also apparent on the inner surface of the mouth and on the tongue. *Second*, weakness of the vital organs, such as observation shows to be a consequence of paucity of the red globules. *Third*, more or less of the phenomena pertaining to the nervous system, which have been mentioned. *Fourth*, the presence, frequently, of obvious adequate causes, such as loss of blood, lactation, frequent child-bearing; or of the affections to the natural history of which anæmia belongs. *Fifth*, the microscopic appearance of the blood, the red globules appearing to be fewer than in health. *Sixth*, the evidence afforded by a quantitative analysis; but this is too difficult to be available for ordinary clinical purposes.

To the foregoing is to be added a physical sign which, when present, is found to be associated generally with anæmia, viz. a bellows murmur at the base of the heart and in the larger arteries, the carotid, subclavian, etc. This murmur accompanies the first or systolic sound of the heart, and is usually soft. To constitute evidence of anæmia, there must be wanting the signs of organic lesions of the heart and large vessels. In conjunction with this murmur, in certain cases, a continuous murmuring sound, sometimes musical, is heard when the stethoscope is applied over the neck, especially on the right side, due to the movement of the blood in the veins, called the venous hum, or, after the French, the *bruit de Diable*. These murmurs are distinguished from those denoting lesions, as inorganic or anæmic murmurs. They are by no means present in all cases of anæmia; in fact, they are oftener wanting than present. Their absence, therefore, affords no proof that anæmia does not exist, but, when present, they denote a blood-change into which paucity of the red globules enters.

With reference to therapeutics, anæmia constitutes a special indication for treatment when it occurs independently of other affections, or when it is associated, as a prior and causative morbid condition, with disorders of the nervous system. When it is an element of other affections, it contributes, in a greater or less degree, to their pathological effects, and claims a certain share of attention. When it exists alone or with disorders to which it has given rise, it is generally a remediable condition; but it is otherwise when associated with such affections as tuberculosis, carcinoma, Bright's disease, etc. When it is the chief condition to be met therapeutically, the first points are to ascertain and remove, if practicable, the cause or causes on which it depends. The next point is to employ measures to restore the normal quantity of red globules. These measures consist of, *first*, a nutritious alimentation, into which meat should enter largely; *second*, the use of tonics and stimulants to render the digestive functions more active; *third*, iron as a special remedy, the effect of which is often remarkable; and, *fourth*, a regimen calculated to increase the energy of the assimilative functions, consisting of exercise

in the open air, recreation, etc. These different measures are, of course, to be combined. As the anæmic condition may coexist with any disease, in other words, as persons affected with anæmia may contract a variety of diseases, its existence, or otherwise, is always to be considered, and its coincidence with different diseases may modify materially their treatment. Bloodletting and other measures which tend to impoverish the blood, as a rule, are injudicious, whatever may be the disease, if it occur in an anæmic subject. And measures addressed to the anæmia may be called for in certain cases of disease, when, occurring in a person not anæmic, or plethoric, the same disease might claim measures of a quite different character.

When simple anæmia exists, and the cause producing it has ceased, as after a hæmorrhage, the reproduction of red globules under efficient measures of treatment is rapid. Robin says, after bleeding an animal largely, the return of globules may be almost observed from hour to hour. Simon states that in the case of a chlorotic girl analysis of the blood gave of globulin, in a thousand parts, 30.860, and of hæmatin 1.431. In seven weeks, during which period she had taken two ounces of the tincture of iron and sixty-four grains of the metal, the proportion of globulin had increased to 90.810, of hæmatin to 4.598. "Before she was pale and her lips colorless; now she presented really a blooming appearance." In two cases given by Andral and Gavarret the red globules were increased under the use of iron, in one case from 46 to 97 in a thousand parts in four weeks, and in the other case from 49 to 64 in three weeks. Pure anæmia, with our present knowledge of tonic and analeptic medication, affords an excellent opportunity to display the resources of medical art.

Of the manner in which the causes of anæmia, exclusive of hæmorrhage, occasion diminution of the red globules, all that can be said, with our present knowledge, is, that they generally appear to act by impairing the *liquor sanguinis*. Further than this the pathologist cannot go until the physiologist explains how the red globules are formed from the elements of the blood-plasma in health.

Anæmia is of more frequent occurrence in the female than in the male. One reason for this is, the normal proportion of red globules is somewhat larger in the female. Another reason is, of the causes giving rise to this morbid condition, several are peculiar to females, viz. menorrhagia, leucorrhœa, lactation, and child-bearing.

The foregoing morbid conditions relate to the quantity of the red globules. The question now arises, whether these bodies are not liable to changes as regards their conformation and their composition.

The red globules have a definite form and size, with a certain range of variation within the limits of health. They are circular and bi-concave, with a regular contour. In size they vary from 1-5000 to 1-3000 of an inch in diameter. Anatomists are not agreed whether they are cells or solid bodies. They are generally regarded as cells; but Robin, one of the most distinguished of the microscopists of the present time, regards them as solid bodies. When brought into contact with different substances out of the body, they are found to be readily altered in form, size, and, of necessity, in composition. They imbibe water by endosmosis, becoming swelled and globular. In some fluids they part with a portion of their water by endosmosis, becoming indented, losing their regular contour and sometimes presenting a wrinkled appearance over their whole surface. The latter changes occur when they are contained in urine. They may be witnessed under the microscope by adding a few drops of perspiration. Again, they are composed of several constituents, the more important being an albuminous substance externally, forming the cell-wall, in the opinion of those who regard them as cells, a substance within, in which resides the coloring matter, called hæmatin, iron, fatty matter, etc. Now, the form, size, and composition of these organized bodies are doubtless adapted to certain physiological ends

of more or less importance in the economy. And, since they are so easily altered out of the body, it may be inferred that changes in the liquid in which they are suspended (the liquor sanguinis) must, of necessity, give rise to various alterations of their size, form, and composition. This is a rational supposition, but, in the existing state of our knowledge, pathology is wanting in ascertained facts. The effects of various reagents out of the body have been studied; but the circumstances in the living body are so widely different that we cannot infer the same effects to be produced when the same reagents are administered as remedies, or to lower animals for the sake of experiment. Indeed, experiments of injecting into the blood-vessels various substances have shown the results to be different from, and sometimes quite the reverse of, those produced by applying the same substances out of the body. Future researches may lead to discoveries which will be found to have important pathological bearings; but at present no positive conclusions are warrantable.

A morbid condition of the red globules incident to inflammation may be here noticed. These bodies appear normally to exude a viscid or sticky substance in small quantity. This causes them to adhere in rolls or piles, presenting under the microscope an appearance compared to that of rows of coin. In the morbid state of the blood which obtains in inflammation, this exudation takes place in an abnormal quantity; hence, there is a notable tendency to adhere in rows. A drop of blood under the microscope may thus furnish a diagnostic sign of inflammation.

The blood contains in health certain gases, viz. oxygen, carbonic acid, and nitrogen. The red globules are supposed to be the agents which absorb and transport these gases. Oxygen and carbonic acid are received and expelled through the medium of the lungs, the interchange of gases with the atmosphere being necessary to the perfection of the blood, and constituting the function called *hematosis*. When these processes are interrupted, the normal condition of the blood, as respects the gases just named, is exchanged for a morbid condition. The blood does not undergo the conversion from venous into arterial; it presents in the arteries the dark color, and essentially the composition and properties of venous blood. It is incapable of sustaining life. This morbid condition of the blood has been called *asphyxia*, a term signifying absence of pulse. A more correct term, now more frequently used, is *apnoea*, signifying deficiency of breath. Any cause impeding respiration may occasion apnoea. It is the mode of dying in the fatal cases of a considerable number of diseases.

Deficiency of oxygen is the essential feature of apnoea, giving rise to phenomena which will be considered under the head of modes of dying. An excess of oxygen in the blood is probably never an element of disease. An excess of carbonic acid obtains wherever the respiratory function is compromised, and this is an element of apnoea. It is difficult to say what pathological effects are due to an accumulation of carbonic acid, and what to deficiency of oxygen, but the latter has undoubtedly the larger amount of agency in giving rise to the phenomena of apnoea.

With our present knowledge of nitrogen in the blood nothing is to be said of its pathological relations.

Of the known morbid conditions affecting the organized or corpuscular constituents of the blood, those which relate to the red globules are the most frequent. There is but one morbid condition relating to the white or colorless globules as yet ascertained; this consists in their abnormal multiplication. The white globules are spherical bodies larger than the red globules—nearly double in size—and relatively vastly less numerous. It is estimated that in health they are in the proportion of one to every one, two, or even three hundred red globules. An important point in its pathological bearing is their resemblance to the

pus globule. So closely do the two resemble each other that the most practised microscopical observers declare their inability to distinguish the one from the other. Robin and others regard them as essentially identical, and, as already stated, include both under the name of leucocytes.

For our knowledge of the morbid condition consisting in an increase of the number of the white globules, we are indebted to the microscope. The existence of such a condition was pointed out by two microscopical observers who were led to the discovery independently of each other in the same year (1845), viz. Bennett and Virchow. Virchow designated the condition *leucæmia*, a term signifying white blood. Bennett applied to it the name *leucocythemia*, signifying white blood cells. The latter is the better term, and is in common use. Both observers at first supposed the abnormal appearance of the blood to be due to the presence of pus.

A certain amount of increase in the number of white globules is not uncommon in various affections. In order to constitute leucocythemia, the increase should be considerable, amounting to a ratio of at least 1 to 20 of the red globules. Cases have been observed in which the ratio was much larger than this, amounting to an equal number of both, and the white even preponderating over the red globules. In all cases the red globules are diminished, and the relatively morbid disproportion is owing in part to this fact. In well marked cases the gross appearance of the blood undergoes a notable change. It acquires a reddish grey or a chocolate color. This is particularly observable after death, in the blood contained in the cerebral veins and sinuses.

This morbid condition of the blood is associated very constantly with enlargement of the spleen, frequently with enlargement of the liver, and in a certain proportion of cases the lymphatic glands of the neck, axilla, groin, etc., become more or less enlarged. A distinction has been made by Virchow into splenic and lymphatic leucocythemia, the former being characterized by enlargement of the spleen, and the latter by enlargement of the lymphatic glands. It is stated that the lymphatic variety is also characterized by notable augmentation of the small white bodies, called globulins; these are also increased in number, but in a less degree, in the splenic variety. A pathological connexion of some sort undoubtedly exists between the enlargement of the parts just named, and the morbid condition of the blood. What the nature of this connexion is, with our present knowledge, can only be conjectured. Bennett regards these and other ductless glands as agents for the production of the corpuscular constituents of the blood, and supposes that the red globules are, in fact, the free nuclei of the colorless globules. Hence, he concludes that leucocythemia is due to disturbances of this blood-function of the ductless glands, in consequence of which the white globules, not being transformed into the red, get into the circulation in a morbidly increased quantity. According to Bennett, disease of the thymus, thyroid, and supra-renal bodies may give rise to leucocythemia, these, together with the pituitary and pineal glands, being, in his view, concerned in the production of the blood globules. These views are at present to be received as hypothetical. It is to be remarked that enlargement of the spleen and lymphatic glands occurs frequently without leucocythemia; while the latter never occurs without the former. It would seem, therefore, that if they sustain to each other the relation of cause and effect, the leucocythemia is the effect rather than the cause. Both, however, may be concomitant effects of a pathological condition as yet unknown.

Patients affected with leucocythemia are, as already stated, anæmic. They present the pallor of anæmia, together with the phenomena symptomatic of that condition. Febrile movement characterizes certain cases, and in these cases the vital forces are rapidly enfeebled, and death takes place by exhaustion. Diarrhoea is apt to occur in this class

of cases. Other cases are characterized by hæmorrhages occurring from the nasal passages or in other situations, and these may be sufficiently profuse to prove the immediate cause of death. Dyspnoea, independently of any appreciable lesions of the chest, has been observed. Diminution of the vital forces, progressing more or less rapidly, belongs to the history of this condition, ending fatally sooner or later. It is doubtful if recovery ever takes place in cases in which the condition is well marked. The average duration before a fatal result is estimated by Trousseau to be about thirteen or fourteen months.

This condition may be suspected when the appearance and other phenomena of anæmia are associated with considerable enlargement of the spleen or lymphatic glands. It is, however, to be borne in mind, that anæmia may occur under these circumstances without leucocythemia. Enlargement of the spleen, as is well known, occurs in a certain proportion of cases as a sequel of intermitting fever, and anæmia generally coexists; but observation shows that leucocythemia is developed very rarely in these cases. The diagnostic criterion is the evidence of the augmented number of white globules, afforded by microscopical examination of the blood. Several specimens should be examined under the microscope, and it is to be recollected that to constitute leucocythemia the proportion of white to red globules should at least be as great as 1 to 20.

The question arises, whether there are sufficient grounds to consider this morbid condition as constituting a special disease, or whether it is to be regarded as merely incidental to other affections. That it is a morbid condition of grave import, is certain; but how much importance belongs to it *per se* is uncertain. With our present knowledge we are not warranted in considering it as more than a pathological element of a cachexia, the essential nature of which remains to be determined. The pathologist may expect to be able to understand more fully the nature of this morbid condition, when physiologists have established the source and the functions of the white globules of the blood. Robin remarks that leucocythemia is a return to the foetal state as regards the predominance of these bodies, they being much more abundant in embryonic life, and that this fact affiliates this morbid condition with certain morbid growths characterized by a hypergenesis of anatomical elements which are more abundant in the foetus.

A third constituent of the blood, belonging to the class of corpuscular elements, is called, after Donné, globulins. These minute spherical bodies, found also in chyle and in the liquid contained in the lymphatic vessels, are notably increased in certain cases of leucocythemia. This single fact is all that is at present known respecting them as entering into morbid conditions.

M. SEGUIN denies that marriages of consanguinity have necessarily a tendency to produce diseased offspring. He relates the results of ten marriages which have occurred between his own family and the family of Montgolfier. Eight of these marriages were between cousins-german, and two between uncles and nieces. Between 1812 and 1858, sixty-one children have issued from these unions, of whom forty-six are alive. No case of deaf-and-dumbness, of hydrocephalus, of stuttering, or of six fingers on the hand, has been observed among them. M. Seguin concludes that, when there exists any constitutional tendency to disease in a family, the tendency to its development is increased in the offspring by consanguineous marriage; but that, in alliances between members of a family endowed with a good constitution, there will be augmentation of the vital forces in the offspring. This is, in fact, just what is observed in animals whose breed is improved by man. M. Flourens remarked on the subject, that it is always well to study long before publishing, and that nothing has hitherto been advanced on the subject of consanguineous marriages worthy a serious consideration.—*Brit. Jour.*

Original Communications.

A FEW REMARKS ON ASTIGMATISM,

ILLUSTRATED BY A CASE.

By F. J. BUMSTEAD, M.D.,

SURGEON TO THE NEW YORK EYE INFIRMARY.

I do not propose to write a complete essay on astigmatism. As the term, however, may be new to some of the readers of the TIMES, a few words in explanation of its meaning may be desirable.

The surface of an ordinary double convex lens may be



supposed to be formed by the revolution of the plane figure *abcd* about its axis *ab*; and hence the curvatures of all its sections are equal. This is, indeed, essential to make such a lens a useful optical instrument; for suppose the curvature of one section to be greater or less than that of another—in other words, suppose the optician to have ground the two surfaces of the lens unevenly—no clear and distinct image of any object can be obtained through it, because the rays of light striking upon different portions will be unequally refracted, and will fail to come to a focus and form an image in the same plane.

Now simply substitute the word *cornea* for the word *lens* in the above remarks, and you have an explanation of astigmatism. A typical cornea, one of the refracting media of the eye, may also be regarded as a surface of revolution with the curvatures of all its sections equal;* hence rays of light proceeding from a luminous point and striking upon various parts of its surface are equally refracted, and passing through the other dioptric media of the eye, are brought to a focus at one point within the globe. But in the astigmatic eye nature has not ground the cornea in an equal manner; its curves vary to a greater or less degree; thin sections cut in various directions and placed one upon another will be found, if critically examined, not to correspond. Hence rays of light proceeding from a luminous point and passing through such a cornea, are not brought to a focus at a single point within the globe, but each distinct place of refraction has its own focus; and hence the origin of the name (probably not the best that might have been chosen) from *a* privative and *stigma*, a point, signifying without a point or focus within the eye to which rays of light converge.

Nature preserves a certain regularity even in the irregularity we are now considering. She does not select at random one of the infinite number of planes which may be supposed to pass through the antero-posterior axis of the eye, as the one which shall present a curve greater or less than the normal curve of the cornea; but it is commonly either the vertical or the horizontal plane, or one nearly approaching them, which is thus defective. Suppose it to be the former, or vertical plane, and suppose also that the curve of the cornea in this plane is too convex; then the rays of light entering the eye in this plane will be too strongly refracted, and will come to a focus in front of those rays which enter in the horizontal plane (supposed to possess the normal curve): in other words, the patient will be myopic in the vertical meridian of his eye, although his sight is normal in the horizontal meridian; and when look-

* Strictly speaking, the normal cornea is not a surface of revolution, since the curve of the horizontal plane is usually less than that of the vertical; but the difference is only regarded as a disease when it exceeds ordinary limits and is capable of being corrected by cylindrical glasses. In this paper, which is intended to be purely elementary, normal astigmatism may be ignored.

ing at a distant object, he will see its lateral edges distinctly while its upper and lower edges will be blurred. Again, instead of being too convex the curve in the same plane may be too flat, when the rays of light in the vertical meridian will come to a focus behind those of the horizontal meridian, and the patient will be hyperopic in the vertical plane; or, again, the vertical meridian may be normal while the horizontal meridian is either myopic or hyperopic; while, still again, both the vertical and the horizontal meridian may vary from the normal type, both being either myopic or hyperopic, but each to a different degree, or the one may be myopic and the other hyperopic. Thus it will be seen that the term astigmatism, although always applied to a variation in the refractive power of the eye in different planes, may include a considerable variety of pathological conditions.

An excellent history of our knowledge of astigmatism may be found in the well known volume of Dr. Mackenzie upon diseases of the eye. The disease was first discovered by Mr. Thomas Young in 1801; a remarkable instance of it in his own person was reported by Mr. Airy, Astronomer Royal, in 1827; a few other cases were also brought to light by various observers; but neither the frequency, the symptoms, nor the treatment of the disease were fully appreciated until the publication, in 1862, of Prof. Donders's work, entitled "*Astigmatismus und Cylindrische Glaeser*." With regard to its frequency, Prof. Donders states that he has met with it on an average in one out of every thirty eyes that he has examined. The symptoms of this disease and the means of diagnosis will appear in the report of the following case:—

Mr. L. F., aged 38, a lawyer by profession, applied to me May 3, 1863, for "dimness of vision," which had troubled him for the last twenty years. He had been under the care of several surgeons who had treated him for "amaurosis" or "asthenopia." His own account of his symptoms was obscure and unsatisfactory, and amounted to this:—that he could not see well, especially after mental excitement or bodily fatigue; that, for instance, when trying a case in court, or after a late supper or excessive smoking, he found it extremely difficult to use his eyes; and that he had tried many kinds of glasses without benefit. Nor did the ordinary methods of examination afford any better clue to the nature of his disease. I found on trial that he could read No. 20 of Dyer's tables at twenty feet. His power of accommodation was normal for his age. There was no insufficiency of the internal recti, nor any defect in the other muscular apparatus of the eye. Upon examination with the ophthalmoscope, the fundus oculi and dioptric media appeared to be perfectly healthy.

Although puzzled for a moment at this result of my examination, the thought soon occurred to me that this might be a case of astigmatism, and I proceeded to question my patient more closely with regard to his symptoms. I asked him if, in looking at an object, he ever saw one portion of its outline more distinctly than another. He replied yes; that in walking through the street at night and looking at a lighted window, the upper and lower edges appeared blurred while the lateral edges were distinct. Again, in looking at a sign across the street, there appeared a second series of letters fainter than the true image and overlapping the latter above and below, and he had observed that this was the case whether one or both eyes were open. This indistinctness of the outline of objects in a vertical direction never entirely disappears, but varies greatly according to the condition of his nervous system. Under ordinary circumstances, it is noticed only when looking at objects which present a marked contrast in color or brightness, as the lighted window and gilt letters upon a black sign, just mentioned; but let him be fatigued or excited, and the dimness appears to affect all objects—even the figures upon the carpet, the ordinary type of a book, or newspaper, etc.

Taking up Snellen's tables of test type, and selecting

the one in which the letters are white upon a black ground, I now requested the patient to describe their appearance. He voluntarily placed himself at a distance of about eighteen feet, and looking at the capital C of No. 100, told me that he saw a second image overlapping in a vertical direction the true image and with its upper edge about half an inch above the latter; also, when regarding the smaller letters of No. 20, he saw a complete reduplication of the figures projected upon the black ground above. In both instances the lateral margins of the letters remained distinct, and the effect was the same if either eye was closed. Having cut a narrow slit in a card, I placed the fissure in a horizontal direction before one eye, the opposite being shut, when the patient immediately exclaimed that the indistinctness of outline had disappeared; but on the contrary, it was heightened, when the position of the fissure was changed to vertical. Other similar tests were also applied. For instance, the holes in an ordinary catheter gauge held before an argand burner appeared to the patient not as circles, but as ovals with their longer axes vertical, and this direction was changed to the horizontal if he inclined his head to a right angle with the axis of his body; moreover, the normal circular image was brought out by looking through a slit in a card in the manner above described.

It was now evident that my supposition was correct, and that there was a defect in the refractive power of the eye confined to the vertical meridian; it remained to discover in what this defect consisted, whether myopia or hyperopia, and also its degree. For this purpose I placed him under such conditions as would render the indistinct vision most marked, viz. with the slit in the card in a vertical direction so as to cut off the horizontal rays; and trying various glasses both convex and concave, I soon ascertained that several of the latter diminished, and that a double concave glass of 30-inch virtual focus completely removed the difficulty. My patient was, therefore, myopic to the extent of 1-30 in the vertical meridian of each eye, while his vision was normal in the horizontal plane.

In a second examination with the ophthalmoscope I observed a phenomenon which previously escaped me. If an astigmatic eye, owing to the defective refraction of its media, sees a circle as an oval, a circle at the fundus of an astigmatic eye should appear oval when seen by a normal eye, since the rays of light undergo the same refraction in passing from, as when entering, the organ of vision. Such a test is to be found in the circular outline of the optic nerve entrance. This test of astigmatism was first pointed out at the Ophthalmic Congress at Heidelberg, in 1861, by Dr. Knapp, who showed that in examining by the upright image the diameter of the optic nerve entrance appears longest in the meridian of the greatest curvature of the cornea, and shortest in the meridian of least curvature; while the contrary is true, when the reversed image is employed—a statement which I was able to verify in the case of Mr. F.—

Astigmatism is relieved by the use of cylindrical glasses—lenses, the surfaces of which are cylindrical instead of spherical, and which therefore refract in one meridian only. In the present case, double concave cylindrical glasses of 30-inch virtual focus, with the axes of the cylinders horizontal, completely removed the defect of vision. When the use of glasses was first suggested to Mr. F., he did not hesitate to express his belief that they could be of no benefit to him whatever; but after a moment's trial he was convinced of the contrary, and expressed his delight with almost childlike exuberance of joy at the relief which they afforded.

Cylindrical glasses cannot at present be made in this country, or at least in New York, to which my knowledge in this respect is confined; but they may readily be procured of Messrs. Paetz and Flohr, of Berlin, or of Natchez et fils, Paris. A complete set should be included in the armamentarium of any one who makes a specialty of eye diseases.

The defect in the conformation of the cornea upon which astigmatism depends, is congenital. I explain the fact that in the present instance it did not annoy the patient until about the age of eighteen, upon the supposition either that it passed unnoticed, or that, like hyperopia, it was compensated for by the high degree of accommodation of early life. The latter explanation is supported by the influence of mental excitement and bodily fatigue in aggravating the annoyance which the disease occasioned.

POISONING BY STRYCHNIA.

By W. D. BUCK, M.D.

OF MANCHESTER, N. H.

THE criminal use of strychnia is of recent date; but cases of murder by it are getting to be frequent, and the phenomena have not always been carefully observed, or, if so, have not been reported.

A case occurred in this city last January, a report of which may add something to our knowledge of the symptoms and post-mortem appearances. On the 16th, about 11 A.M., Dr. Caldwell was called to Mary Ann Gibney, Irish, unmarried, six months advanced in pregnancy. She was lying on a bed upon her back, and to the left, jaws closed, forearms flexed across the chest, fingers clenched. The legs were not carefully observed. During the spasms she uttered screams. In the interim she conversed, was conscious of approaching death, and attempted to swallow medicine, but most of it would be forced back. She lived about thirty minutes, and died in a spasm. There was no period of flaccidity after death, rigor mortis being continuous with the last spasm.

Coroner Rowell saw the body soon after death, and testified that it was arched (opisthotonos). I saw her at half-past three, four hours after death. The body was warm, temperature of the atmosphere 53°. The face was livid, eyes open, pupils natural, jaws firmly closed, lips slightly parted, frothy matter escaping from the mouth; muscles of the neck relaxed; arms rigid, elbows flexed at right angles, forearms across the chest, fingers semi-flexed, and when forcibly extended would fly back; the same with the elbow; the legs were rigidly extended, feet extended and arched, great toes drawn in.

Saw the body at 6 P.M.; bloody, frothy matter escaping from the mouth; in other respects, the same.

At 9 o'clock, Dr. Wheat saw her at my request. No material change.

Autopsy at 8 A.M. the 17th, twenty-one and a half hours after death. Temperature of the atmosphere 168; body cold, face livid, jaws rigidly closed; the neck, back, left arm, right shoulder, and hip-joints were relaxed. Other parts rigid, and in the same position as the day before, manifesting the same tendency to fly back when forcibly extended. On sawing through the cranium, a large quantity of blood escaped from the cavity, probably from the sinuses and vessels of the head and neck; membranes congested; brain and spinal marrow healthy; the lungs, lining membrane of the trachea, and muscles in front of the neck were congested; the heart was firmly contracted, ventricles empty, very little blood in the auricles. Abdominal viscera healthy externally; stomach nearly empty, containing about half an ounce of a greyish, starchy substance. The mucous membrane of the cardiac extremity congested; the remaining portion was covered with a substance similar in appearance to the contents, and could not easily be removed; the mucous membrane of the small intestine was pale; liver, kidneys, and spleen, healthy; uterus contained a six months' fetus. A portion of the abdominal viscera was examined by Dr. A. A. Hays, of Boston, and found to contain strychnia in sufficient quantity to produce death.

There are two or three points in this case worthy of notice:—1st. The early disappearance of the rigor mortis in certain parts of the body, the neck being relaxed four

hours after death, and, notwithstanding the morning of the 17th was cold, the back, left arm, right shoulder, and hip-joints, were relaxed 21½ hours after death. 2d. The empty condition of the stomach; either it had received nothing just previous to death, or its contents had been thrown out by spasmodic action. That the latter may take place, I am satisfied, having witnessed it in a young man several years since, who took strychnia for the purpose of committing suicide. During the spasms the contents of the stomach were ejected from the mouth, between the teeth, with sufficient force to reach the ceiling.

3d. The point which I wish to notice more particularly, is the tendency of the limbs to fly back when forcibly extended. It was noticed by Mary Keeley, who laid out the body of Cook. Also by the person who laid out the body of Healy, who was poisoned by strychnia in Auburn, N. H., three or four years ago. Is there any other mode of death where the rigor mortis exhibits this phenomena?

I have seen muscular action after death by cholera, previous to rigor mortis, but never witnessed anything like what occurred in the case of Mary Ann Gibney.

MANCHESTER, N. H., Sept. 25, 1863.

ROYAL FREE HOSPITAL.—Dr. Henry Bennet has resigned the office of Physician-Accoucheur to the Royal Free Hospital. His resignation was received and accepted at the meeting of the Hospital Board on the first of October, and the secretary was requested to convey to Dr. Bennet the compliments of the Board, and their sincere wishes for the complete recovery of his health.—*Lancet*.

HOSPITAL GANGRENE,

WITH A TABULAR STATEMENT OF THIRTY-THREE CASES.

By FRANK H. HAMILTON, JR., M.D.,

ASSIST.-SURG. U.S.A., McDUGAL GEN. HOSP., FORT SCHUYLER, N.Y.

THE following is a tabular statement of thirty-three cases of hospital gangrene which occurred at the McDougal General Hospital, Fort Schuyler, N.Y., within the last two months. I have thought that inasmuch as the subject of bromine in hospital gangrene is now being discussed pretty actively by the profession, these tables might be of some value to those interested in the subject. An analysis of the tables elicits the following facts, viz.

Whole number of cases treated, 33.

Of these but two were attended with fatal results, and these some days after the gangrene had been arrested. I refer to the cases Nos. 29 and 30. In the former, the patient died from exhaustion, the result of extensive suppuration in the knee-joint, the wound having been in perfectly healthy condition for several days. In the latter case the patient died from dysentery, his wound having put on a healthy action two weeks before his decease.

In one case, viz. No. 4, where nitric acid was used, the disease was not arrested, and at the end of ten days it was found necessary to amputate the leg above the knee. The stump healed by the first intention. Looking at the table again, and analysing it, it will be seen that the average duration of all the cases under all treatments amounts to 12.1515 days.

Number treated with nitric acid,	18.
Average duration of disease,	16 days.
Number treated with sol. bromine,	14.
Average duration,	6.6428 days.
Number treated with iodine,	1.
Average duration,	7 days.

The cases were under the care of Drs. Caldwell, Peck, Graves, and myself, respectively, and the sanitary surroundings were as nearly similar as could be possible. We were all agreed upon the constitutional treatment, which consisted in good diet, whiskey, and iron. The figures show strongly in favor of the use of bromine.

ing at a distant object, he will see its lateral edges distinctly while its upper and lower edges will be blurred. Again, instead of being too convex the curve in the same plane may be too flat, when the rays of light in the vertical meridian will come to a focus behind those of the horizontal meridian, and the patient will be hyperopic in the vertical plane; or, again, the vertical meridian may be normal while the horizontal meridian is either myopic or hyperopic; while, still again, both the vertical and the horizontal meridian may vary from the normal type, both being either myopic or hyperopic, but each to a different degree, or the one may be myopic and the other hyperopic. Thus it will be seen that the term astigmatism, although always applied to a variation in the refractive power of the eye in different planes, may include a considerable variety of pathological conditions.

An excellent history of our knowledge of astigmatism may be found in the well known volume of Dr. Mackenzie upon diseases of the eye. The disease was first discovered by Mr. Thomas Young in 1801; a remarkable instance of it in his own person was reported by Mr. Airy, Astronomer Royal, in 1827; a few other cases were also brought to light by various observers; but neither the frequency, the symptoms, nor the treatment of the disease were fully appreciated until the publication, in 1862, of Prof. Donders's work, entitled "*Astigmatismus und Cylindrische Glaeser*." With regard to its frequency, Prof. Donders states that he has met with it on an average in one out of every thirty eyes that he has examined. The symptoms of this disease and the means of diagnosis will appear in the report of the following case:—

Mr. L. F., aged 38, a lawyer by profession, applied to me May 3, 1863, for "dimness of vision," which had troubled him for the last twenty years. He had been under the care of several surgeons who had treated him for "amaurosis" or "asthenopia." His own account of his symptoms was obscure and unsatisfactory, and amounted to this:—that he could not see well, especially after mental excitement or bodily fatigue; that, for instance, when trying a case in court, or after a late supper or excessive smoking, he found it extremely difficult to use his eyes; and that he had tried many kinds of glasses without benefit. Nor did the ordinary methods of examination afford any better clue to the nature of his disease. I found on trial that he could read No. 20 of Dyer's tables at twenty feet. His power of accommodation was normal for his age. There was no insufficiency of the internal recti, nor any defect in the other muscular apparatus of the eye. Upon examination with the ophthalmoscope, the fundus oculi and dioptric media appeared to be perfectly healthy.

Although puzzled for a moment at this result of my examination, the thought soon occurred to me that this might be a case of astigmatism, and I proceeded to question my patient more closely with regard to his symptoms. I asked him if, in looking at an object, he ever saw one portion of its outline more distinctly than another. He replied yes; that in walking through the street at night and looking at a lighted window, the upper and lower edges appeared blurred while the lateral edges were distinct. Again, in looking at a sign across the street, there appeared a second series of letters fainter than the true image and overlapping the latter above and below, and he had observed that this was the case whether one or both eyes were open. This indistinctness of the outline of objects in a vertical direction never entirely disappears, but varies greatly according to the condition of his nervous system. Under ordinary circumstances, it is noticed only when looking at objects which present a marked contrast in color or brightness, as the lighted window and gilt letters upon a black sign, just mentioned; but let him be fatigued or excited, and the dimness appears to affect all objects—even the figures upon the carpet, the ordinary type of a book, or newspaper, etc.

Taking up Snellen's tables of test type, and selecting

the one in which the letters are white upon a black ground, I now requested the patient to describe their appearance. He voluntarily placed himself at a distance of about eighteen feet, and looking at the capital C of No. 100, told me that he saw a second image overlapping in a vertical direction the true image and with its upper edge about half an inch above the latter; also, when regarding the smaller letters of No. 20, he saw a complete reduplication of the figures projected upon the black ground above. In both instances the lateral margins of the letters remained distinct, and the effect was the same if either eye was closed. Having cut a narrow slit in a card, I placed the fissure in a horizontal direction before one eye, the opposite being shut, when the patient immediately exclaimed that the indistinctness of outline had disappeared; but on the contrary, it was heightened, when the position of the fissure was changed to vertical. Other similar tests were also applied. For instance, the holes in an ordinary catheter gauge held before an argand burner appeared to the patient not as circles, but as ovals with their longer axes vertical, and this direction was changed to the horizontal if he inclined his head to a right angle with the axis of his body; moreover, the normal circular image was brought out by looking through a slit in a card in the manner above described.

It was now evident that my supposition was correct, and that there was a defect in the refractive power of the eye confined to the vertical meridian; it remained to discover in what this defect consisted, whether myopia or hyperopia, and also its degree. For this purpose I placed him under such conditions as would render the indistinct vision most marked, viz. with the slit in the card in a vertical direction so as to cut off the horizontal rays; and trying various glasses both convex and concave, I soon ascertained that several of the latter diminished, and that a double concave glass of 30-inch virtual focus completely removed the difficulty. My patient was, therefore, myopic to the extent of 1-30 in the vertical meridian of each eye, while his vision was normal in the horizontal plane.

In a second examination with the ophthalmoscope I observed a phenomenon which previously escaped me. If an astigmatic eye, owing to the defective refraction of its media, sees a circle as an oval, a circle at the fundus of an astigmatic eye should appear oval when seen by a normal eye, since the rays of light undergo the same refraction in passing from, as when entering, the organ of vision. Such a test is to be found in the circular outline of the optic nerve entrance. This test of astigmatism was first pointed out at the Ophthalmic Congress at Heidelberg, in 1861, by Dr. Knapp, who showed that in examining by the upright image the diameter of the optic nerve entrance appears longest in the meridian of the greatest curvature of the cornea, and shortest in the meridian of least curvature; while the contrary is true, when the reversed image is employed—a statement which I was able to verify in the case of Mr. F.—

Astigmatism is relieved by the use of cylindrical glasses—lenses, the surfaces of which are cylindrical instead of spherical, and which therefore refract in one meridian only. In the present case, double concave cylindrical glasses of 30-inch virtual focus, with the axes of the cylinders horizontal, completely removed the defect of vision. When the use of glasses was first suggested to Mr. F., he did not hesitate to express his belief that they could be of no benefit to him whatever; but after a moment's trial he was convinced of the contrary, and expressed his delight with almost childlike exuberance of joy at the relief which they afforded.

Cylindrical glasses cannot at present be made in this country, or at least in New York, to which my knowledge in this respect is confined; but they may readily be procured of Messrs. Paetz and Flohr, of Berlin, or of Natchez et fils, Paris. A complete set should be included in the armamentarium of any one who makes a specialty of eye diseases.

The defect in the conformation of the cornea upon which astigmatism depends, is congenital. I explain the fact that in the present instance it did not annoy the patient until about the age of eighteen, upon the supposition either that it passed unnoticed, or that, like hyperopia, it was compensated for by the high degree of accommodation of early life. The latter explanation is supported by the influence of mental excitement and bodily fatigue in aggravating the annoyance which the disease occasioned.

POISONING BY STRYCHNIA.

By W. D. BUCK, M.D.

OF MANCHESTER, N. H.

THE criminal use of strychnia is of recent date; but cases of murder by it are getting to be frequent, and the phenomena have not always been carefully observed, or, if so, have not been reported.

A case occurred in this city last January, a report of which may add something to our knowledge of the symptoms and post-mortem appearances. On the 16th, about 11 A.M., Dr. Caldwell was called to Mary Ann Gibney, Irish, unmarried, six months advanced in pregnancy. She was lying on a bed upon her back, and to the left, jaws closed, forearms flexed across the chest, fingers clenched. The legs were not carefully observed. During the spasms she uttered screams. In the interim she conversed, was conscious of approaching death, and attempted to swallow medicine, but most of it would be forced back. She lived about thirty minutes, and died in a spasm. There was no period of flaccidity after death, rigor mortis being continuous with the last spasm.

Coroner Rowell saw the body soon after death, and testified that it was arched (opisthotonos). I saw her at half-past three, four hours after death. The body was warm, temperature of the atmosphere 53°. The face was livid, eyes open, pupils natural, jaws firmly closed, lips slightly parted, frothy matter escaping from the mouth; muscles of the neck relaxed; arms rigid, elbows flexed at right angles, forearms across the chest, fingers semi-flexed, and when forcibly extended would fly back; the same with the elbow; the legs were rigidly extended, feet extended and arched, great toes drawn in.

Saw the body at 6 P.M.; bloody, frothy matter escaping from the mouth; in other respects, the same.

At 9 o'clock, Dr. Wheat saw her at my request. No material change.

Autopsy at 8 A.M. the 17th, twenty-one and a half hours after death. Temperature of the atmosphere 168; body cold, face livid, jaws rigidly closed; the neck, back, left arm, right shoulder, and hip-joints were relaxed. Other parts rigid, and in the same position as the day before, manifesting the same tendency to fly back when forcibly extended. On sawing through the cranium, a large quantity of blood escaped from the cavity, probably from the sinuses and vessels of the head and neck; membranes congested; brain and spinal marrow healthy; the lungs, lining membrane of the trachea, and muscles in front of the neck were congested; the heart was firmly contracted, ventricles empty, very little blood in the auricles. Abdominal viscera healthy externally; stomach nearly empty, containing about half an ounce of a greyish, starchy substance. The mucous membrane of the cardiac extremity congested; the remaining portion was covered with a substance similar in appearance to the contents, and could not easily be removed; the mucous membrane of the small intestine was pale; liver, kidneys, and spleen, healthy; uterus contained a six months' fetus. A portion of the abdominal viscera was examined by Dr. A. A. Hays, of Boston, and found to contain strychnia in sufficient quantity to produce death.

There are two or three points in this case worthy of notice:—1st. The early disappearance of the rigor mortis in certain parts of the body, the neck being relaxed four

hours after death, and, notwithstanding the morning of the 17th was cold, the back, left arm, right shoulder, and hip-joints, were relaxed 21½ hours after death. 2d. The empty condition of the stomach; either it had received nothing just previous to death, or its contents had been thrown out by spasmodic action. That the latter may take place, I am satisfied, having witnessed it in a young man several years since, who took strychnia for the purpose of committing suicide. During the spasms the contents of the stomach were ejected from the mouth, between the teeth, with sufficient force to reach the ceiling.

3d. The point which I wish to notice more particularly, is the tendency of the limbs to fly back when forcibly extended. It was noticed by Mary Keeley, who laid out the body of Cook. Also by the person who laid out the body of Healy, who was poisoned by strychnia in Auburn, N. H., three or four years ago. Is there any other mode of death where the rigor mortis exhibits this phenomena?

I have seen muscular action after death by cholera, previous to rigor mortis, but never witnessed anything like what occurred in the case of Mary Ann Gibney.

MANCHESTER, N. H., Sept. 25, 1863.

ROYAL FREE HOSPITAL.—Dr. Henry Bennet has resigned the office of Physician-Accoucheur to the Royal Free Hospital. His resignation was received and accepted at the meeting of the Hospital Board on the first of October, and the secretary was requested to convey to Dr. Bennet the compliments of the Board, and their sincere wishes for the complete recovery of his health.—*Lancet*.

HOSPITAL GANGRENE,

WITH A TABULAR STATEMENT OF THIRTY-THREE CASES.

By FRANK H. HAMILTON, Jr., M.D.,

ASSIST. SURG. U.S.A., McDUGAL GEN. HOSP., FORT SCHUYLER, N.Y.

THE following is a tabular statement of thirty-three cases of hospital gangrene which occurred at the McDougal General Hospital, Fort Schuyler, N.Y., within the last two months. I have thought that inasmuch as the subject of bromine in hospital gangrene is now being discussed pretty actively by the profession, these tables might be of some value to those interested in the subject. An analysis of the tables elicits the following facts, viz.

Whole number of cases treated, 33.

Of these but two were attended with fatal results, and these some days after the gangrene had been arrested. I refer to the cases Nos. 29 and 30. In the former, the patient died from exhaustion, the result of extensive suppuration in the knee-joint, the wound having been in perfectly healthy condition for several days. In the latter case the patient died from dysentery, his wound having put on a healthy action two weeks before his decease.

In one case, viz. No. 4, where nitric acid was used, the disease was not arrested, and at the end of ten days it was found necessary to amputate the leg above the knee. The stump healed by the first intention. Looking at the table again, and analysing it, it will be seen that the average duration of all the cases under all treatments amounts to 12.1515 days.

Number treated with nitric acid,	18.
Average duration of disease,	16 days.
Number treated with sol. bromine,	14.
Average duration,	6.6428 days.
Number treated with iodine,	1.
Average duration,	7 days.

The cases were under the care of Drs. Caldwell, Peck, Graves, and myself, respectively, and the sanitary surroundings were as nearly similar as could be possible. We were all agreed upon the constitutional treatment, which consisted in good diet, whiskey, and iron. The figures show strongly in favor of the use of bromine.

[illegible]

REMARKS ON CYANOSIS.

BEING A REPLY TO DR. JACOBI.

By J. LEWIS SMITH, M.D.,

PHYSICIAN TO THE ORPHAN HOME AND ASYLUM, LECTURER IN THE UNIVERSITY MEDICAL COLLEGE.

I WAS not aware of the nature of the criticisms of my paper on cyanosis made before the Academy of Medicine, till the recent appearance of the Bulletin of this Society, and as some of these criticisms seem to me to relate to points of importance, it is proper that I should take notice of them. And this I shall do with much esteem for my criticizer, as a personal friend, and with a proper appreciation of the zeal and intelligence with which he prosecutes the study of diseases of children. And at the outset let me say that much confusion can be avoided by bearing in mind my definition of cyanosis. I have stated in my paper, that I apply this term only to those cases in which the blood, both in the arteries and veins, is venous, in consequence of some permanent abnormal state in the economy, and therefore continuing venous till the close of life, and that this abnormal state has been found to be in the heart, or great vessels, or rarely, the lungs. Of course, the temporary venous state, occurring in diseases, as in croup or pneumonia, I would consider only a feature or result of the disease which causes it, and not a disease *per se*.

Now, is cyanosis, according to my definition, a disease proper, or only a feature of disease? To answer this question we must first decide in reference to another, namely, whether the serious affection of any system, as the nervous or circulatory, accompanied by marked symptoms, but caused by a local ailment or defect, which is productive of few direct symptoms, and is not in itself serious, is to be considered a disease, or only a symptom or feature of the local ailment or defect. Take, for example, tetanus, which is very analogous to cyanosis. Is the affection of the nervous system in tetanus to be considered a disease *per se* or only a "symptom" of the wound? It is obvious that it should be considered a disease, because the wound, although acting as cause, soon becomes a subordinate matter to the affection of the nerves. The symptoms and the danger arise chiefly from the state of the nerves, and not directly from the wound. And so in case of cyanosis, the signs and symptoms, such as the coldness, the emaciation, or stunted growth, the feeble development of the sexual functions, the lividity, the abnormal development of the fingers and toes, spring chiefly from the state of the blood, and not directly from the malformation. In other words, the symptoms and signs arising directly from the malformation, are subordinate to those arising from the venous state of the blood, and therefore I hold that this venous state should be considered a disease *per se*.

The view which I have expressed, is certainly in consonance with the opinion of the best pathologists, as shown in reference to other diseases. If a patient has a decided icteric hue, due to slight duodenitis, or perhaps to a torpid state of the liver, unaccompanied by pain or tenderness, the best authorities do not hesitate to call the disease jaundice. Or if there is decided pallor from imperfect assimilation of the food, they call the disease chlorosis; and if blood loaded with bile, or blood deficient in red corpuscles, is a disease, why is not blood loaded with carbonaceous products, and deficient in oxygen?

An attempt is made in the criticism to show that leucocythemia, which is an affection analogous to cyanosis, is not a disease *per se*, and doubtless it will be admitted that if leucocythemia is a disease, then also is cyanosis. Now, let me remind the reader, that the discoverer of leucocythemia, who is second to no one in Great Britain as a pathologist, has always considered leucocythemia a disease, and repeatedly speaks of it as such, although he discards the idea of Virchow, that it consists of two varieties: the splenic and lymphatic.

A little further on in the criticism is found the expres-

sion, " * * the attempt on the part of Dr. Smith, to prove that cyanosis is a new disease, is only an evidence of a retrograde movement in medicine." This remark I do not understand. It is distinctly stated in my paper, that physicians began to give attention to cyanosis as far back as the time of Boerhaave and Vieussens, and that Morgagni, more than a century ago, broached a theory in explanation of it, which still has many adherents.

As to the idea that the malformations which produce cyanosis are caused by myocarditis, occurring at an early period of foetal life, it is only necessary to go a little into the study of the malformations to see that this explanation is unsatisfactory. For in the most common malformation, that in which the pulmonary artery is in fault, there is a certain proportion of cases in which it is obvious that myocarditis cannot be the cause of the anatomical defect. We refer to those cases in which the pulmonary artery is absent. No amount of inflammation of the heart could cause the absence of this vessel, especially as the latter, or rather the common arterial trunk, which afterwards becomes the aorta and pulmonary artery, is formed before the heart. And is it not probable that the non-development and the imperfect development are due to the same cause, whatever that may be? If so, the inflammatory doctrine cannot be received as a sufficient explanation, in a large proportion of cases, in the most common malformation. Again, the inflammatory doctrine evidently does not afford sufficient explanation for those cases in which the malformation is not obstructive, as, for example, those in which the defect consists in transposition of the aorta and pulmonary artery. Still, it must be conceded that there is reason to believe that inflammation affecting the lining membrane of the heart may be the cause of those obstructive malformations in which there is adhesion of the valves, or in which an adventitious membrane stretches across the mouth of the pulmonary artery.

I have not stated in my paper, and do not now say, that the maternal emotions are, in any case, the cause of the malformation, although the mother sometimes expresses this opinion. Certainly they are not, when experienced as late as the fourth or fifth month of utero-gestation, since the growth of the heart is then too far advanced. And yet, why may not the opinion of mothers sometimes be correct; why may not the maternal emotions, at an early period of foetal life, be a remote cause, even if the malformation is due to myocarditis, since there would, of necessity, be a cause antedating the inflammatory action? But this is a subject about which much may be conjectured, but little can be known with certainty.

I desire to call attention particularly to the important part of the criticism, namely, the objection to my theory that *cyanosis is due to vices or defects in the organism, usually congenital, which prevent the free and regular flow of blood to, through, or from, the lungs*. A case is narrated, in which the bronchial arteries were much enlarged, so as to afford a free flow of blood to the lungs as a compensation for a defective pulmonary artery, and yet intense cyanosis was present. Who does not see that, in order to make the argument good, the bronchial arteries should arise from the pulmonary, or at least from the right ventricle, instead of from the aorta? for only then could the bronchial arteries, however much enlarged, answer the purpose of the pulmonary artery. For, consider, in the case cited, as the bronchial arteries were in their normal situation, they must have given passage to the lungs of a mixed current, namely, the blood which had just returned from the lungs, to the left auricle and ventricle, and was already arterialized, and also the blood which had returned to the right ventricle from the system. A portion of the blood, then, which entered the bronchial arteries, passed directly from the lungs to the heart, and then back to the lungs, to the exclusion from these arteries of the same amount of venous blood, which the wants of the system required to be arterialized. There was far from being a "free and regular flow of blood to the lungs" in this case, although quite

American Medical Times.

SATURDAY, OCTOBER 24, 1863.

EFFICIENCY OF THE ARMY SURGEON.

THE medical staff of our volunteer army has been subjected to much scandal and harsh and unjust censure for alleged incompetency. It has, in truth, become popular to talk disparagingly of the army surgeon, and sweeping denunciations are made against the entire staff on account of the reprehensible conduct of individual members. It is rare, even in our own profession, that the position of the volunteer surgeon before and after entering the army is correctly appreciated. In an address before the Albany County Medical Society, DR. S. OAKLEY VANDERPOEL, late Surgeon-General of this State, has given his large experience in relation to the qualifications of surgeons, and of the manner in which they have performed their duties. We shall be pardoned for quoting freely from this interesting address, which has not been published. DR. V. speaks with authority upon the subjects which he touches, for few have been brought in contact with a larger number of volunteer surgeons.

He discusses the duties of army surgeons under the following heads, viz. 1st, as hygienists; 2d, as physicians; 3d, as surgeons. He remarks that the mass of the community, indeed the mass of physicians, limit the province of medical men to simply *caring for the sick*; with convalescence their responsibility and labor cease. It is comparatively of recent date when that higher element has been distinctly recognised and studied—the prevention of the causes of disease, and their removal from those in health. Nor is it strange the former idea should be the one prominent. The great mass of medical men who have entered the military service are necessarily from the country or from small communities. A man living among rich fields, wooded hills, and running streams, has little cause to study and avert those thousand poisonous influences which beset at once an aggregation of individuals; and the physician practising in such a community would hardly know of hygiene and its laws, except as by curiosity he might read of it in the literature of the day.

He states that no report has come to him more frequently than the following:—A camp is formed in which are rapidly congregated from five hundred to a thousand men. They come in, individually hardy and robust; their bronzed countenances, brawny arms, and stalwart forms mark them as the finest type of physical development. The surgeon, perhaps excited, and it may be bewildered by the novelty of his position and duties, is surprised after a while to find that men who presented themselves only a short time previous as recruits in the full vigor of health, are attacked one after another by some zymotic agency; his little hospital is soon filled, additional accommodations are sought, and he is most assiduous in his care upon the sick. He exercises an enlightened judgment, skilful practice, and yet his sick recover slowly, the mortality is large, and the numbers on the increase. The officers and men lose confidence in him, and the mortality is pointed to as an evidence of incompetency; the surgeon was clearly at fault. It did not occur to him that the close,

warm barracks, in which the men are packed closely as bees, in the construction of which but one idea has prevailed, how best to keep *out the air*, was the silent, wary poisoner of his men; that their aggregation in quarters far too limited for the number, without the least provision for ventilation, indeed with every obstacle to prevent it, the confined exhalations of the men, the want of cleanliness in persons and quarters, the change of diet, the irregular habits at once contracted; all matters which fall under his direct province, and concerning which, if he had been fully conversant, very much of his subsequent troubles would have been averted.

Or follow the men in their first essay at camp-life, From the necessities of the service they camp on a level spot, without natural drainage, in a wet season. The tents are pitched with symmetrical precision, the military arrangements seem all perfected, and yet the men suffer exceedingly, and sickness is rapidly developed in the camp. *Diarrhæa*, a word more frequently in the mouth of the soldier than any other, is prevalent. The surgeon, judicious in his mere medical prescriptions, exhausts the *ars medicina* in vain. Still is it persistent, still are the numbers increasing. Here again he is at fault, in the simplest rules of hygiene.

Due attention has not been given to the first requisite—the proper drainage of each tent and street; the latrines have been located indifferently, more with an eye to convenience than the absolute necessity of locality, nor has proper attention been paid to throwing on earth day by day; the garbage and refuse of the camp are not systematically carried off and destroyed; more than all, the first essays of men wholly unsophisticated in the principles of cooking, have given to the men food totally unfit and indigestible.

A very little preliminary care would have prevented all. He had but to impress upon the officers the essential need of attention to the externals of the camp, to have taken a half hour each day and instruct the detail of cooks that their method of cooking could hardly be worse, that the effort to do it speedily would entail serious consequences, and much would be remedied. It is easy to make the hardest junk or the saltiest pork palatable, and to change the beans from bullets, as they are half the time served, to soft, nutritious food. If our surgeons, as a class, have come short in anything, it is in their knowledge and application of the laws of hygiene.

As physicians, they have proved themselves equal to the emergency. Most of the diseases of camp life, while severe in character, are comparatively simple in diagnosis and treatment. If the surgeon be but faithful and devoted he soon acquires the knowledge requisite for intelligent and proper treatment.

As surgeons, though they have fallen short of the standard necessary for a thorough and true performance of their duties, they have exhibited as high a standard of proficiency as the previous experience and opportunities would warrant.

Operative surgery is purely a practical art. He who becomes at all proficient must be engaged in its daily practice and be constantly exercised in its manipulation. The utmost precision in anatomical details, while of primary importance, will not alone render the operator skilful. He wants the cool head, steady hand, and confident assurance which daily exercise can alone confer. True, these are not

closely as
has pre-
the silent,
ation in
hout the
obstacle
men, the
change
all mat-
concerning
much of
d.
camp-life,
on a level
The tents
arrange-
exceed-
e camp.
th of the
on, judi-
the ars
he num-
simplest

all the qualities that constitute the true surgeon, for there is a true philosophy to the art—a philosophy which only close study, careful observation, and a ripened experience can confer. In no department of surgery is this more essential, and yet, from the very necessities of the case, are the data more conflicting—so many extraneous influences arise—influences so foreign to the patient in private practice or general hospital, that deductions derived from data gathered there are wholly irreconcilable with experience upon the field. It is but right, therefore, that proper allowance should be made for any shortcomings of our army surgeons. Special study and experience are absolutely necessary before the surgeon can perform his duty properly.

This kindly appreciation of the difficulties under which the medical staff of the volunteer army has labored, will be grateful to the individual members. Heretofore they have received only censure, and that often of the most unjust and cruel kind. We do not doubt that impartial history will be as lenient in its judgment as the late Surgeon-General.

THE WEEK.

A Correspondent of the *London Medical Times and Gazette*, writing from the Army of the Potomac, makes the following statement in regard to the system of operating after each battle:—

"Previous to that time (battle of Antietam), it was the duty of the senior medical officer of a regiment to decide upon all the cases occurring in his command, and should his decision be operation, to operate; but the evils arising from this licence, this want of supervision, became plainly apparent, and to prevent in a great measure in future ill-timed, ill-judged, and badly-executed interference, a staff of officers in whom confidence could be placed was commissioned, in the event of a battle, to examine, decide, and operate, the duty of the others being restricted simply to dressing. That this plan works admirably the experiences of Fredericksburg, Chancellorsville, and Gettysburg have fully demonstrated. Not only do the patients receive the best professional skill which the division can afford, but the surgical history of the battle is better preserved. One officer in the Hospital does nothing but record in full the histories of the various cases, whereas formerly every regiment had a record to hand in, although every one did not furnish it. Some surgeons, through ignorance of the routine of military duty, and others through neglect, did not comply. It is not unusual also for papers in the field to get lost during their transmission from one official to another."

LONDON has been visited by an epidemic of small-pox, of great severity. It has now declined, but it has left a fearful record of its power. The *British Med. Journal* says:—

"It reached its climax in the month of May, the number of deaths for the week ending May 9th being 71, and for the four weeks ending May 30th, 268. The number of deaths for each of the four weeks of August was 49, 45, 39, and 31; the total for the four weeks being 164. For the first two weeks of September the numbers have been only 29 and 28. It is to be observed, however, that the disease is still far above its ordinary prevalence; and that the number of deaths increased considerably after the week ending July 25th, when it was only 34, and when the Registrar-General stated that there was 'reason to hope that the further spread of the small-pox in the metropolis had been checked.' Some idea as to the extent of the present epidemic may be gathered from the following facts:—"In 1861, the number of deaths from small-pox registered for the entire year was only 217; whereas the number for the

first eight months of the present year has been no less than 1600."

THE Medical Colleges of this city have commenced their annual session. There is a considerable increase in the aggregate number of Students in attendance, showing a strong tendency to concentration of medical teaching in New York. As would be anticipated, the Schools that offer the best facilities for clinical instruction, attract the larger number of students. But few changes have been made in the schools during the past year. In the College of Physicians and Surgeons, DR. THOMAS has been appointed Adjunct Professor of Obstetrics; PROF. BUDD takes the place of PROF. BEDFORD, in the University Medical College; PROF. CARNOCHAN has retired from the N. Y. Medical College.

Reviews.

RELATIONS OF THE WAR TO MEDICAL SCIENCE.—The Annual Address delivered before the Westchester County [N. Y.] Medical Society, June 16th, 1863, by J. FOSTER JENKINS, M.D., President of the Society. New York: Baillière Brothers, Publishers, 1863. pp. 16.

IN this interesting address DR. JENKINS sets forth the labors of the Sanitary Commission with great vigor and truth. As an Associate Secretary of the Commission he has had large opportunities to become familiar with all its operations, and to trace the influence of its service upon the country and upon our profession. He says:—

"The Sanitary Commission appeals strongly to the approval of medical men, in that it has so steadily, from the inception of its trust, inculcated the importance of the observance of the laws of hygiene. Recognising from the beginning of its career the great truth that preventive medicine out-ranks in importance both alleviative and restorative processes, it has steadily promulgated it, in many publications, and by the urgent voices of its medical officers. 'A Treatise on Hygiene and Therapeutics,' by two eminent members of the New York Academy of Medicine; a compilation of 'Rules for Preserving the Health of the Soldier,' a monograph containing the conclusive evidence of the prophylactic virtue of the sulphate of quinine in warding off miasmatic disease; a tract of advice on camping; another on the value of vaccination to armies—are specimens of what it has attempted through the press. These have been circulated to the extent of many thousand copies by the Commission's agents, to medical and military officers, to non-commissioned officers and privates. Meeting the requirements of its charter from the President of the United States, which constituted it a 'Commission of Inquiry and Advice in Respect to the United States Forces,' it has in all our armies set on foot a series of inquiries almost exhaustive in their range, touching the many relations of hygienic law to life in camp, in bivouac, and on the march. These pertain to the character of the camp-site; the arrangement, drainage, and cleanliness of the camp; the character, ventilation, and arrangement of the tents; the bedding and clothing of the men; their personal cleanliness; the quality and source of the water; the character and abundance of the food, and the manner of cooking it; the recreations and discipline of the men; the provision of the camp hospital; the sickness and mortality existing, or recent, etc., to every condition, in short, that has an ascertained influence on the health of men in armies.

"These inquiries are made, and the facts sought for are gathered, by medical men, selected for their intelligent familiarity with the applications of hygienic laws, their tact, and their qualification for independent observation, so that their eyes and ears, and the inferior organs even of taste and smell, may correct and modify inaccurate, partial, or wilfully false statements of careless or reluctant informants."

The preparation of monographs on special subjects was an important work:—

"The Commission has called into its service, or, rather, has

claimed the service for humanity, of distinguished medical scholars and writers, for the preparation of practical monographs on the diseases, or surgical injuries most liable to arise amid the vicissitudes of war. The names of Flint, and Metcalfe, and Mott, and of the present Surgeon-General of the United States army, Brigadier-General Hammond, assure you that work intrusted to such men is not feebly performed. The sixteen monographs already printed have received a wide circulation in the army, and, besides their immediate benefit, can hardly fail, in due time, of a reflex influence on public health."

Another and perhaps still more important enterprise undertaken by the Commission was hospital inspection:—

"Another method in which the Commission is applying its resources to promote a knowledge of applied science, is by sending to each of the United States general military hospitals in the country, a surgeon or physician of recognised distinction, and wide experience in hospital management, who has had practical acquaintance with the needs and the deficiencies of hospital construction, who is familiar, as with his alphabet, with the conditions which invite disease or prolong convalescence, whether pertaining to construction and interior arrangement of the buildings, to the regimen or professional treatment of the patients, or to external circumstances, as the vicinage of swampy grounds or the neighboring nuisances of a populous suburb. You receive the names of Bowditch, and Buck, and Draper, and Post, and Reid, fallen, alas! at the post of duty, as those of experts whose judgment must be influential with the chief of the medical bureau, could he avail himself of it. It was on consultation with Surgeon-General Hammond, and by his advice, that this corps was engaged, six being kept in the field, successively, east, west, and south, and their reports, or the portions of them calling for remedial action or making recommendations, are by the chief of the corps, Dr. H. G. Clark, well known as a scientific sanitarian, transmitted in confidence to him. This inspection will prove of advantage not only to the occupants of the ninety thousand beds in the hospitals thus visited, in effecting improvements in hospital architecture and management, but by the final publication of such portions of the reports as may properly be given to the public, new light may be thrown on many points of hospital economy, and fresh illustrations be supplied of the laws of sanitary science."

He thus alludes to the reform of the Medical Bureau effected principally by the Commission:—

"When the war began, the requirements of law provided that the senior surgeon of the army should be the Surgeon-General, an arrangement that was liable to result in placing at that post an officer whose chief qualification for its varied duties of large responsibility was a good constitution carefully preserved. There was no bureau of medical inspection established by law, nor any legal requirement in this corps for its maintenance. There was little incentive, aside from natural taste, considerations of pride or conscientious impulse to professional improvement, or especially zealous devotion to duty. Promotion, being by seniority of service, could not follow as a result of high qualification, nor, after the junior officer had passed his examination for a surgeoncy at the end of five years' service, was it retarded by incompetence or sloth. The tendencies of the system repressed the promptings of professional ambition, and favored contentment in the dry path of old routine."

"It was no merit of the system that so many medical officers rose above its debilitating influences, and made for themselves and for their corps a reputation going far to justify, by scientific attainments, as well as by manly and honorable bearing, the designation I once heard applied to them by an officer of another staff—the '*corps d'élite* of the army.' The commission felt that such a system was inadequate to the demands of the country—that the highest talent and the most interested devotion should be given to the discharge of the multifarious duties of the medical bureau. It urged its views upon the President, the Secretary of War, and upon Congress, and brought to bear on legislators, the organized sentiment of thoughtful men throughout the country. It met the objections of Prescription and Routine, and pointed out a more excellent way than ever their feet had trodden. By the influence of Public Opinion, moulded and organized and directed by the Commission, it is not too much to say, Congress, in April, 1862, passed a bill which, approved by the President, became law on the 16th of that month, and which introduced new features of the greatest value into the organization of the medical bureau."

"Besides increasing the number of officers in the lower grades, it added an Assistant Surgeon-General and a Medical Inspector-General, with the rank of colonel respectively, eight Medical Inspectors, ranking as lieutenant-colonels, and provided that these officers—as well as the Surgeon-General, who ranks as a brigadier-general—should be hereafter selected for merit and eminent qualification from the whole number of medical officers in service, whether of the regular or volunteer army."

"This is the first instance, so far as I am aware, in which legislation inspired the ambition of members of the medical staff, by associating their efficiency with the rewards of a laudable ambition. The assistant surgeon, ranking as lieutenant, could heretofore only expect to attain a captain's rank at the end of five years. Five to seven years more found him enjoying a surgeoncy, with a major's dignity, and there he felt that he must abide during his whole army life, as few men could rationally dream of surviving to a septuagenarian enjoyment of the only colonelcy, when he should become the senior surgeon and so Surgeon-General."

"A striking illustration of what was to be expected from the new law was given nine days later, when the President commissioned Assistant Surgeon William A. Hammond to be Surgeon-General of the army. It is well known, I believe, that the Sanitary Commission urged this appointment, but not on personal grounds, for only one of its members had ever seen him when their decision was reached that this would be the best appointment possible. But they presented his claims to the President and cabinet, from his well-known devotion to science, his energy and executive ability, his comprehensive view of the great questions sure to arise in the administration of his office, and his evident readiness to meet boldly great responsibilities. His administration has justified the selection. He has introduced liberality and promptness into the purveying department of the bureau. He has greatly enlarged the supply table; has substituted for old hotels and seminaries, airy and ample hospital buildings, conformable to improved architectural models; has raised, by providing more rigid examinations, the scientific standard for admission into the army medical service; has sought legislation to enlarge the hospital fund, to improve the system of nursing, to provide for more extended inspection of camps, barracks, hospitals, transports, and stores; to establish a legalized and humane system of ambulance, and to render, by other enactments, the corps more efficient and the system more complete."

"By these efforts, by the just exercise of discipline, by his encouragement to scientific investigation, his fostering of army medical societies, his establishment of a museum of pathology, and his detail of accomplished members of the medical staff, to write the medical and surgical history of the war, he has kindled afresh, in the medical service, a zeal and an *esprit-du-corps* which can hardly fail to reach an enthusiasm noble in its aims, and, to scientific progress, fertile in result. It is barely a year since the medical bureau was fully re-organized by the President's appointment, and their confirmation by the Senate, of the corps of Medical Inspectors, the prime helpers of its Chief in securing an exact knowledge of the field before him. But the experience of this year indicates the increasing gain likely to accrue to science from this measure of reform. For, under such guidance, reform is not likely to go backward. Let us thank God and take courage."

The annual meeting of the Vermont Medical Society was announced to be held at Montpelier on the 14th and 15th of October.

CORRECTION.—It was erroneously stated in the MEDICAL TIMES of Aug. 27th, that Dr. G. W. Varnum was in charge of the 15th Army Corps Hospital, at Vicksburg. Dr. C. McDonnell, U.S.V., organized this hospital, and has continued in charge to the present time.

PRESENTATION TO DR. W. W. STREW, U.S.V.—Dr. Strew, formerly of Oyster Bay, L. I., but now a Surgeon of Volunteers, in charge of the U.S. Army General Hospital, No. 11, Louisville, Ky., recently received from the officers of that hospital a valuable testimonial, consisting of a beautiful set of silver plate, a magnificent pitcher, two goblets, and a salver.

Correspondence.

IMPORTANCE OF PRELIMINARY EXAMINATIONS IN MEDICAL SCHOOLS.

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—Your article in the TIMES of August 28, touches upon a subject of vital significance to the profession. You there suggest the importance of insisting upon an examination in the primary studies at least, preparatory to admission to our medical colleges.

Now, this idea at first may strike some as exceedingly chimerical, if not unreasonable. But, if we look at the actual status of the majority of the students in our medical schools, and compare it with what we all feel should be the standard, both for student and practitioner, we cannot fail to see that the good of the profession cries loudly for a reform.

And first of all, it is an undeniable fact that there are fewer graduates of colleges among the students of medicine than among the members of our law schools and theological seminaries.

In looking over the catalogues of two of our most prominent schools, I found that the proportion of graduates of colleges was only about one in five—a small ratio surely, making then the exception, and not the rule. Among theological students the rule is reversed. The non-graduates are the exception, and marked as such. And among the students of law, both in schools and offices, the proportion of educated men is far greater than among the students of medicine. Moreover, it is a fact, verified by all who have had opportunities of judging, that out of the five hundred that annually step forth from our New England colleges, not one in ten enters upon the study of medicine. Such, then, being the facts, is it not evident that many of the attendants of the lectures must be deficient in the essential preparation for thorough and successful study? Let me not be understood as deifying a college diploma. A pound of brains is worth a ton of parchment. It is true that our land contains no greater dunces than many that are annually crowned with laurel and degree. But still the eternal fact stands forth that, other things being equal, the difference between one man and another is the difference of opportunity. And the remark applies with peculiar force to the medical profession. Even Dr. John Brown, in his *Hours Subseque*, while contending for the superiority of what he terms "*The With Brains*," sir," over education and culture, still asserts that a physician must be *capax* as well as *sagax*—capable of scholarship as well as sagacious in observation and discernment.

Education cannot create or confer creative power, but is an accession to that power. The physician needs genius and heart, but he needs more. He must have power of acquisition and love of labor. Unless he have the two last combined with the former, he ought never to deal with the minds, bodies, and souls of men.

Genius, combined with heart, unassisted by scholarship, may make an eloquent pulpit orator, and the history of the church glistens with bright examples. But medical biography affords no instances of any men who, by mere force of intuition alone, have become pillars or standards in science. Asclepiades, Paracelsus, and Chamberlin, the inventor of the forceps, were really brilliant men, and made startling innovations; but the fathers of medicine, Hippocrates, Galen, Sydenham, and Rush, were well-read, universally educated men. It is essentially a progressive science, and all that the most original mind can do is to add his own few mites to the accumulations of the centuries. For this reason, and then, the fact of so great a number of uneducated among our schools, there should be a system of examination on the essential preparatory studies.

It should not be such as to require the routine of a college course; but it should be such as to require careful and thorough study somehow, either alone or under instructors. Some of our ablest leaders in every department of thought and action have never seen the walls of a college, but hard and long they have toiled for themselves to complement their deficiencies of opportunity.

Again, such a system as here proposed would add dignity to the profession. At present your remark, "he is only fit to be a doctor," is only too truthful a statement of the popular expression. Ought this so to be? Viewed in its largest, highest, wholest scope, there can be no more noble profession than that of a physician. The pill and powder, the scalpel and bistoury, should be merely tools of the character behind them. The soul that lies deep within man is of more importance at the bedside than the technical knowledge of formalities. What practitioner has not noted with surprise often that remedies succeed in some hands that often fail utterly, administered by others? May not the reason of this difference of result, sometimes at least, be traced to the unconscious and impalpable moral influence that proceeds like the invisible electric current from the heart and mind through every word, look, gesture, or operation?

One thing is seen, the literary standard of our profession can be and *must* be brought up to a level with law and theology. It is already so in Germany. Yet in our land the impression remains, both among the masses and men of letters, that medicine is only a city of refuge for the renegades from every other profession, and that for an embryo-physician to devote his strength and time to miscellaneous and literary culture is to cast his rich pearls before swine. How erroneous, and yet how prevalent, is this idea! But can we blame communities for thinking thus, when a glance at our lecture rooms tells us that they must be half right in their impressions? But this is not all. Not only do uneducated men, and those whom poor scholarship or godless lives have ostracised from final graduation at our institutions of learning, feel free to enter upon the solemn pursuit of medicine; but even of those who enter with diploma in hand, very few indeed are men of the first literary ability, at least, to say nothing of their moral character. Law and theology monopolize the talent of our colleges. From extended observation I am prepared to assert that not *one in fifty* of the graduates of our New England colleges, and who become students of medicine, are men who were the intellectual leaders of their classes.

These facts all point one way. They show vividly the necessity of a thorough preliminary examination, such as you suggested, to give the profession the exalted name and place it deserves. Such a system of examination would exclude or stimulate those who hitherto have jumped from the unimproved district school to the medical lecture-room. It would exclude the worthless cast-offs of our colleges, those sapless leaves that fall to the earth, and are continually blown into our ranks. It would exclude even the diploma, if only ignorance and indolence were behind it.

May the bright day hasten when faculties shall dare to stand before the doors of their schools, armed with a clear, impartial examination, to repel the entrance of recklessness, immorality, and stupidity. And then every ambitious and intellectual youth can feel that in this most sacred calling he may find full scope for all the literary culture, all the scholarly attainments, all the familiarity with human nature, all the iron energy and wealth of feeling that give to character everywhere its power and beauty.

G. M. B.

WHAT IS HIS DINNER HOUR?

[To the Editor of the AMERICAN MEDICAL TIMES.]

SIR:—The following extract from a weekly religious paper is so truthful and suggestive that I beg you to insert it in the AMERICAN MEDICAL TIMES. It is rare to find a layman

who so thoroughly understands the little annoyances to which medical men are subjected.

What question is oftenest asked of any in life? "What's his dinner hour?" Men may indeed say: "How d'ye do?" But that is a salutation; half the weary man comes home whether it is answered or not. This is a question to which we expect an answer: "Is Mr. Blank in?" "No." "Is Dr. Good at home?" "No." "What's his dinner hour?"

Now, my friend, what is the motive for asking this question? Do you expect to dine with him? Oh no—you only want to see him. If you wanted an invitation to dinner, you would take a less direct way, but you want to see him. If the servant is green enough, he will tell you his dinner hour; and so when the weary man comes home from his business or his round of practice, perhaps hurrying lest he should be late, his dinner on the table, wife and children waiting, there you lie in wait like a spider for your victim. "Just a moment, I only want five minutes' talk with you." Who ever finished a talk in five minutes? It grows to ten, he rises, another five, the family have begun their dinner, or sit waiting and indignant. What is a dinner after it has stood on the table fifteen minutes?

"Just one minute more, Doctor." If a man says one minute, always multiply it by ten. At last he gets rid of you, and he is a saint if he does not follow you with a very left-handed blessing.

"Ah!" you say, "what a stir, merely because a man's dinner is put off, just once." Yes, that's it, "just once." Why, friend, remember that what you do to-day some one else will do to-morrow, and so it becomes a thing of daily occurrence. It is no small thing to spoil a man's dinner every day, to trouble his temper; it is really a matter of health and of principle; for when a man has worked hard he needs repose, and digestion is better with a quiet mind.

And what did you want? "Oh, his help about a situation for my son," or his opinion about a certain investment; or, if he be a physician, a professional opinion? Why not go then to his office at the proper time? "Oh, he is so busy then, I always have to wait." So then the whole thing resolves itself into selfishness, you want a favor, and in addition, though you could see him at a time he fixes, you prefer to sacrifice his convenience to your own, and so you ask: "What's his dinner hour?"

"But I expect to pay him." My friend, does money pay for such annoyances, and do you give any extra compensation for loss of temper and much vexation? I never heard of it. "But my time is valuable." It may be; but a man who is really busy, and values his time and is systematic, will appreciate the convenience of others, and not trespass on their rights. Busy! what were you doing the next morning, when he was ready to see you at his office? I saw you lounge for half an hour and smoke a cigar at your leisure. You were not going to have your comfort disturbed, and you spent another half hour later, in very unnecessary gossip with Mr. B. at his office: I saw you; but you were in a furious hurry soon after, and all for want of those two half hours.

Oh! for the Law of Consideration. If your business be for his advantage, he has a right to choose his own time or reject it; if you want him to do you a favor, you certainly are bound to consult his convenience. What is the Golden Rule? Answering that, your next question will not be: "What's his dinner hour?"

Army Medical Intelligence.

(CIRCULAR NO. 22.)

SURGEON-GENERAL'S OFFICE,
WASHINGTON CITY, OCT. 10, 1868.

The following letter from the Provost Marshal-General is published for the information of the medical officers of the army:

"WAR DEPARTMENT, PROVOST MARSHAL-GENERAL'S OFFICE,
WASHINGTON, D. C., OCT. 9, 1868.

"COLONEL:—I have the honor to return the enclosed communication from Medical Inspector Cuyler, and beg leave to state that the surgeons in charge of hospitals are directed in Paragraph VI., General Order No. 212, to forward to this Bureau rolls of all men reported by them for transfer to Invalid Corps, after each regular muster. Immediately on the receipt of these rolls in this Bureau, the Acting Assistant Provost Marshal-General of the State in which the hospital is located, is notified to receive the men whose names are on the rolls, and assign them to companies in the battalion to which they are reported to belong by the surgeon. Should any of the men recommended by him (the surgeon) for the second battalion be needed in the hospital for nurses, cooks, etc., they will be at once assigned to such duty. Full companies can be organized in hospitals where their services are needed, and officers will be assigned to command them, and will clothe, arm, and equip the men.

"Where no companies exist in a State from which rolls are received from a surgeon, then the Provost Marshal of the State is ordered to receive the men and hold them as a nucleus for the formation of a company.

"The names of the men thus reported are published in a General Order, which completes their transfer to the corps. The necessity for subsisting the men must necessarily exist until an officer is assigned to command them, when provisions will be drawn on a regular Company Return by that officer.

"As the number of officers of the corps is limited, and by no means adequate to its requirements at present, it is confidently expected that the surgeons will accord to us that patience and forbearance which we are led to expect from the great courtesy and hearty co-operation with which they have already favored the corps.

"I am, very respectfully,

"Your obedient servant,

"JAMES B. FRY,

"Provost Marshal-General.

"COLONEL BARNES,

"Acting Surgeon-General, U.S.A."

By order of the Acting Surgeon-General:

C. H. CRANE,

Surgeon, U.S.A.

ORDERS, CHANGES, &c.

Assistant-Surgeon L. J. Comstock, 155th New York Vols., on detached duty at Harwood Hospital, Washington, D. C., has been ordered to join his regiment.

Surgeon Henry James, U.S.V., has been ordered to remove all the sick and wounded, able to travel, from the General Hospitals at Gettysburg, Penn., for Baltimore, Md., between the 20th inst and 5th prox. Sick and wounded who are not fit to be removed, will be placed in charge of competent medical officers in the town of Gettysburg. Having performed this duty Surgeon James will report in person to the Surgeon-General.

The resignations of the following named medical officers have been accepted by the President, to take effect the days specified:—

Surgeon James W. Fitzpatrick, October 11, 1868.

Assistant-Surgeon E. Dodd, October 13, 1868.

" F. T. Dade, October 14, 1868.

" R. J. Lewis, October 14, 1868.

The commanding General, Department of the East, has been authorized to remove the sick and wounded prisoners at David's Island, New York harbor, to one of the smaller hospitals on Bedloe's Island, and to transfer the persons in hospital at Fort Schuyler to David's Island. The Fort Schuyler Hospital to be discontinued, and the buildings removed.

Assistant-Surgeon W. C. Spencer, U.S.A., has been relieved from duty in the Department of the Gulf, and will repair without delay to Washington, D. C., and relieve Assistant-Surgeon E. S. Dunster, U.S.A., now on duty in the Surgeon-General's Office.

Assistant-Surgeon E. S. Dunster, U.S.A., now on duty in the Surgeon-General's Office, on being relieved by Assistant-Surgeon W. C. Spencer, will proceed at once to West Point, N. Y., and relieve Assistant-Surgeon H. L. Sheldon, U.S.A., now on duty at the place.

Assistant-Surgeon H. L. Sheldon, U.S.A., now on duty at West Point, N. Y., on being relieved by Assistant-Surgeon E. S. Dunster, U.S.A., will report in person without delay to the Major-General commanding Department of the Gulf, for duty.

Surgeon E. H. Gilbert, U.S.V., is hereby relieved from duty with the Army of the Potomac, and will repair without delay to Philadelphia, Pa., and report in person to Surgeon John Campbell, U.S.A., Medical Director, Department of the Susquehanna, for duty.

METEOROLOGY AND NECROLOGY OF THE WEEK IN THE CITY AND COUNTY OF NEW YORK.

Abstract of the Official Report.

From the 5th day of October to the 12th day of October, 1863.

Deaths.—Men, 100; women, 106; boys, 95; girls, 116; total, 420. Adults 206; children, 214; males, 198; females, 222; colored, 2. Infants under two years of age, 145. Children born of native parents, 11; foreign, 155.

Among the causes of death we notice:—Apoplexy, 7; infantile convulsions, 29; croup, 29; diphtheria, 15; scarlet fever, 11; typhus and typhoid fevers, 15; consumption, 61; small-pox, 9; measles, 2; dropsy in head, 9; infantile marasmus, 36; cholera-morbus, 1; cholera infantum, 11; inflammation of brain, 9; of bowels, 8; of lungs, 28; bronchitis, 2; effects of heat and sun-stroke, 0; erysipelas, 0; diarrhoea and dysentery, 23. 221 deaths occurred from acute diseases, and 32 from violent causes. 258 were native, and 162 foreign; of whom 115 came from Ireland; 51 died in the City Charities; of whom 12 were in Bellevue Hospital, and 8 in the Immigrant Institution.

Abstract of the Atmospheric Record of the Eastern Dispensary, kept in the Market Building, No. 57 Essex street, New York.

Oct.	1863.	SIX A.M.				TWO P.M.				TEN P.M.			
		Minimum Temperature.		Wind.	Temperature.		Wind.	Temperature.		Wind.			
		° c	° f		° c	° f		° c	° f				
		Evaporation Below.	Barometer.		Evap. Below.	Barometer.		Evap. Below.	Barometer.		Evap. Below.	Barometer.	
4th.		55.60	3	29.81	S.	72	6	29.84	S.	67	4	29.86	S.
5th.		48.48	6	29.87	N.W.	57	6	29.91	S.	50	4	29.91	S.
6th.		42.44	6	30.09	W.	57	7	30.04	S.	53	4	30.07	S.
7th.		44.50	6	30.11	N.	58	6	30.19	N.E.	55	3	30.00	N.E.
8th.		52.53	2	29.91	S.E.	61	3	29.80	S.E.	54	3	29.74	S.E.
9th.		45.47	5	29.98	N.W.	60	7	29.90	S.W.	56	4	29.91	S.
10th.		49.50	4	29.93	N.	61	5	29.99	N.E.	51	5	29.99	N.

REMARKS.—4th, Variable sky. 5th and 6th, Clear. 7th, Clear day; shower late at night. 8th, Fog A.M.; rain P.M. 9th, Clear. 10th, Cloudy.

From the 12th day of October to the 19th day of October, 1863.

Deaths.—Men, 104; women, 87; boys, 118; girls, 97; total, 421. Adults, 191; children, 230; males, 237; females, 184; colored, 6. Infants under two years of age, 140. Children born of native parents, 21; foreign, 164. Among the causes of death we notice:—Apoplexy, 7; infantile convulsions, 21; croup, 18; diphtheria, 11; scarlet fever, 17; typhus and typhoid fevers, 21; consumption, 65; small-pox, 1; measles, 0; dropsy of head, 19; infantile marasmus, 35; cholera morbus 2; cholera infantum, 6; inflammation of brain, 10; of bowels, 16; of lungs, 23; bronchitis, 12; erysipelas, 2; diarrhoea and dysentery, 30. 222 deaths occurred from acute diseases, and 32 from violent causes. 271 were native, and 150 foreign; of whom 104 came from Ireland; 68 died in the City Charities; of whom 8 were in Bellevue Hospital, and 8 in the Immigrant Institution.

Abstract of the Atmospheric Record of the Eastern Dispensary, kept in the Market Building, No. 57 Essex street, New York.

Oct.	1863.	SIX A.M.				TWO P.M.				TEN P.M.				
		Minim. Temperature	Maxim. Temperature	Evaporation Below.	Barometer.	Wind.	Temperature	Evap. Below.	Barometer.	Wind.	Temperature	Evap. Below.	Barometer.	Wind.
		° c	° f				° c	° f			° c	° f		
11th.		46.47	5	30.04	N.E.	54	8	30.05	N.E.	50	4	30.06	N.E.	
12th.		39.41	4	30.05	N.E.	53	9	30.00	S.W.	49	4	30.00	W.	
13th.		38.40	4	30.05	N.	56	30.01	S.W.	46	5	30.01	S.W.		
14th.		43.47	5	30.07	S.W.	59	30.11	S.W.	51	4	30.07	S.		
15th.		51.51	2	30.11	S.E.	66	6	30.07	S.E.	60	5	30.00	N.E.	
16th.		54.58	3	29.96	N.E.	60	2	29.91	N.E.	57	3	29.81	N.E.	
17th.		56.57	4	29.94	S.	73	7	29.87	S.	60	4	29.90	S.	

REMARKS.—11th, 12th, 13th, and 14th, Clear. 15th, Fog early; variable day. 16th, Rain nearly all day (one inch). 17th, Clear.

Extract of Hamamelis Virginica, OR WITCH-HAZLE.

The attention of the Profession is called to our elegant distillation from the young twigs of Witch-Hazel.

For inflammatory conditions, such as excessive congestion of the conjunctiva, varicose veins, hemorrhoids, all hemorrhages, whether of the nose, uterus, or from wounds, the extract of Witch-Hazel will be found invaluable.

For sale in bulk or in bottles of 32 oz., 16 oz., 8 oz., 4 oz., by CASWELL, MACK & CO., Under Fifth Avenue Hotel.

New York Academy of Medicine.

Transactions, Vol. I. 8vo. cloth, \$2.50. In paper cover, \$2.00. Subscriptions received for the Transactions at \$2.00 per volume. Bulletin, Vol. I., 1861-62, 8vo. cloth, \$1.50. If sent by mail, 32 cents extra must be remitted for the Transactions, Vol. I., and 36 cents for the Bulletin, Vol. I. BAILLIERE BROTHERS, 440 Broadway, N. Y.

The "Fifth Avenue Pharmacy," 157 FIFTH AVE., BET. 21ST AND 22D ST.

J. P. FILER, PROPRIETOR,
JOHN CANAVAN, PHARMACEUTIST.

The Undersigned would beg to inform the Medical Profession that he is again in business at the above establishment, where, having the entire control of the Pharmaceutical Department, he will be enabled to carry on business as formerly for himself.

Respectfully,

JOHN CANAVAN.

N.B.—Medicines at all hours, day and night.

DR. S. B. SMITH'S SENSATIONAL DIRECT AND TO-AND-FRO CURRENT ELECTRO-MAGNETIC MACHINES.

"The arrangement of the direct circuit in Smith's Apparatus gives a much stronger physiological effect than I have seen from any other apparatus. The induced current is extremely intense."—B. Silliman, Jr., Professor of General and Applied Chemistry, Yale College, Ct., July, 1863.

The so called Six Currents made by different combinations of three distinct helices, were made many years ago by J. Jewell & Co., Bristol, Ct. The Six Currents, so called, were made by myself some years before Jewell & Co. I called it the Torpedo Magnetic Machine, from its giving out shocks from all parts of it like the torpedo.

"I have had one of Dr. S. B. Smith's Torpedo Magnetic Machines in my possession ten years. Six shocks or more may be obtained from it."—L. V. Newton.

Dr. L. V. Newton is publisher of the "Druggists' Circular." I never applied for a patent for this Six Current contrivance. All these Six Currents can be obtained from my Direct and To-and-Fro Current, by means of a bit of small wire, five inches long, attached according to the directions in my pamphlet.

PRICE—\$15, \$15, and \$17. Extra Office size, \$5. Sent to all parts. Payment can be made to Express Agents on delivery of goods.

ADDRESS,

DR. S. B. SMITH,
429 Broadway, N. Y.

THE PHYSICIAN'S WANT. NEW EDITION IMPROVED.

Now Ready.

THE PHYSICIAN'S HANDBOOK OF PRACTICE. REVISED AND IMPROVED FOR 1864.

CONTAINING THE NEW REMEDIAL AGENTS OF THE PAST YEAR.

This edition of this popular manual has been thoroughly revised and re-stereotyped throughout. Many valuable improvements have been introduced, and corrections made. The "Handbook" possesses advantages peculiarly its own. Embracing the conveniences of a diary with those of a manual, for simplicity and completeness it is superior to any of its class. During the seven years of its publication it has become an indispensable companion to every physician who has examined its claims to their support. During this period it has acquired a permanent patronage which is being enlarged. No practitioner can well afford to be without this practical monitor when once its utility is known, for he will find it a means to save—time, labor, and money.

BOUND IN MOROCCO, POCKET-BOOK FORM, \$1 25.

Mailed Free of Postage, and for sale by all Booksellers.

W. A. TOWNSEND, PUBLISHER,

No. 39 Walker street, N. Y.

••• Braithwaite, one year, and the "Handbook," \$3 00, postage prepaid

Now Complete.

AMERICAN JOURNAL

OF

OPHTHALMOLOGY.

JULIUS HOMBERGER, M.D., EDITOR.

VOLUME I.,

—1863.—

Price \$2.00. Bound in Cloth, \$2.50.

Subscription for Vol. II. (4 quarterly numbers), \$2 00, payable in advance.

BAILLIERE BROTHERS,

440 Broadway, New York.

Just issued, 12mo., 48 pages, with 16 illustrations: price 25 cts. by mail postage free.

The Mechanical Treatment of Angular CURVATURE, or Pott's Disease of the Spine. By C. F. Taylor, M.D.

BAILLIERE BROTHERS, 440 Broadway, N. Y.

GEORGE TIEMANN & CO.
Manufacturers of Surgical Instru-
MENTS, &c.
No. 68 CHATHAM STREET, NEW YORK.

OTTO & REYNDERS,
Manufacturers and Importers of
Surgical, Orthopedical, and Dental
Instruments, Trusses, etc.,
58 Chatham Street, New York.

The various Splints for Morbus Coxaricus, Abdominal Supporters, Shoulder-
braces, Stockings for Varicose Veins, Electric Machines, Ear-Trumpets,
Fracture Splints, Crutches, Syringes, Elixirs, Skeletons, Fine Cutlery, etc.

Artificial Legs and
Arms. Selpho's Patent. The best sub-
stitutes for lost limbs the world of science
has ever invented. (Established 24 years.)
Can be had only of

WM. SELPHO,
Patentee and Inventor,
216 Broadway, N. Y.

A NEW INHALER.
The attention of the profession is called to my new instrument for
inhaling etherized fluids in pulmonary diseases.

This inhaler differs from any other in operation, and is considered
by good authorities the most perfect instrument of that kind. It has,
besides other advantages, valves by means of which a full collapse of the
lungs is allowed in breathing out, and at the same time preventing the
gas thus expelled from coming in contact with the fluid in the medicine
chamber.

Descriptive catalogues will be sent to the profession.
The instrument is on sale at G. Tiemann & Co., 68 Chatham Street,
G. BASTIAN,
880 Broadway, cor. 15th Street,
New York.

(Front office, upstairs.)

Shedden's Effervescent Citrate of
Magnesia, an agreeable refrigerant and laxative. Our preparation
is warranted unchangeable in any climate.
JOHN W. SHEDDEN, Pharmacist,
Bowery, cor. 4th St., N. Y.

Diphtheria: Practical Observations
on, and the Treatment of, with cases.
ALSO

Pyrophosphate of Iron, Preparation
and Therapeutical Uses of.

By E. N. CHAPMAN, M.D.,
Prof. of Therapeutics and Materia Medica, Prof. of Clinical Obstetrics, and
Physician in the Long Island College Hospital.
Price 25 cents each.
RAILLIER BROTHERS, 440 Broadway, N. Y.

Dr. Davis's Institute.—Corner of
8TH ST. AND MAISON AVE., NEW YORK.

This Institute is established for the purpose of carrying out in the
most appropriate manner, the treatment introduced by the undersigned
for Typhoid and Erysipelas of Joints, including Old Inflammations and
Deformities.

The principles of his treatment, its benefits, and its applications, have
been communicated to the profession. The advantages of having
the patient constantly under personal control and supervision, are too
obvious to all medical men to require elucidation. Indeed, the Institute
is established in compliance with frequent requests of physicians as well
as patients from abroad.

The Institute is arranged with all the comforts of a private family home,
without any of the repulsive accompaniments of a hospital. Further
particulars obtained on applying to

HENRY G. DAVIS.

MESSRS. BAILLIÈRE BROTHERS
Beg to inform the
MEDICAL PROFESSION
AND STUDENTS, that having purchased a stock of the publications of
**MESSRS. BLANCHARD & LEA, LIPPINCOTT &
CO., LINDSAY & BLAKISTON, Etc.**

They are requested to sell all the publications of these Houses at a VERY
LIBERAL DISCOUNT FOR CASH. Prices will be given on application and
orders are respectfully solicited.

WADE & FORD,
Instrument Makers to the
NEW YORK, BELLEVUE, AND CITY HOSPITALS,
Manufacture and Import all kinds of
SURGICAL AND DENTAL INSTRUMENTS, APPLIANCES,
SYRINGES, etc.,
85 Fulton Street, New York.

W. & F. beg leave to call the attention of the Faculty to the latest and
most COMPACT general operating case, which they have arranged under
the supervision of Dr. JAMES R. WOOD, a full description of which will be
forwarded upon application. Also, Dr. LEWIS A. SAYRE's improved out-
door Splint for MORBUS COXARICUS. Directions for measurements will be
forwarded when requested.

References.—JAMES R. WOOD, M.D., LEWIS A. SAYRE, M.D., STEPHEN
SMITH, M.D., R. F. BACHE, M.D., U.S.N.

PRICED CATALOGUES WILL BE SENT TO ANY ADDRESS.

Agents for Jewett's Artificial Limbs, which are superior to all
others.

Sole Agents for "Feminine Irritation Instrument." Price \$3.00.

VACCINE
Virus of all kinds, perfectly pure, and
most reliable, used by the leading physicians of this city; put up in
the best form for transmission to any part of the world. Prices—single
tube, 75 cts.; three, \$2; single charge of eighth-day lymph, on pointed quills,
15 cts.; fifteen points, \$1; single charge, on convex surface of section of
quill, 20 cts.; ten, \$1. Crusts from \$1 to \$5 according to weight.
Address, Eastern Dispensary, 57 Essex Street, New York.

Buffalo Medical and Surgical Journal.
A MONTHLY PERIODICAL.

The Buffalo Medical and Surgical Journal is published monthly, contain-
ing reports of Medical Societies and Hospitals, Editorials, Reviews, Cor-
respondence, Army News, etc., etc.; including the usual variety of Medi-
cal Periodical Publications. Specimen copies sent on application. Terms
\$2.00 a year, in advance.

J. F. MINER, M.D.,
Editor Buffalo Med. and Surg. Jour.,
Buffalo, N. Y.

A REMARKABLE INVENTION IN ARTIFICIAL LEGS
BY DOUGLAS BLY, M.D.
AN ANATOMICAL LEG,

THE U. S. ARMY AND NAVY LEG.
The latter is furnished to Soldiers by the U. S. Go-
vernment, without charge, by applying
to Dr. BLY.

By frequent dissections Dr. Bly has succeeded in embodying the prin-
ciples of the natural leg in an artificial one, and in giving it lateral or side
motion at the ankle, the same as the natural one. By so doing he has pro-
duced the most complete and successful invention ever attained in artifi-
cial legs.

A pamphlet, containing full description and illustrations, can be
had without charge by addressing

DOUGLAS BLY, M.D.,
Either 605 BROADWAY, New York City, or ROCHESTER, New York, or
CINCINNATI, Ohio.

TERMS OF THE AMERICAN MEDICAL TIMES.

City and Canadian Subscribers, \$3.50 per annum, payable in advance.
Mail Subscribers, \$5 per annum, payable in advance.

Remittances must accompany an order for the Journal.
The Publishers will not hold themselves responsible for the loss of
money included in unregistered letters.

There are two volumes a year, commencing on the 1st of January and
July; but subscriptions may begin at any date.

Those who desire to have the series complete can be supplied with the
back numbers at the original subscription price.

The last volume, newly bound in cloth, may be had at the office, for \$2.00,
and free by mail for \$2.02; cloth cases for binding may be had at the office
for 25 cents, and free by mail for 34 cents.

* THE MEDICAL TIMES is published every Saturday morning, and is
transmitted direct by mail throughout every section of the country. As a
medium for immediate communication with the medical profession of the
United States, it offers unsurpassed facilities to those desiring to advertise
Medical Colleges and Schools, Law Works, Surgical Appliances, Instruments
of every kind, Drugs and Medicines, etc., etc. The following terms of
transient advertisements may be modified by special contract for permanent
insertions:

1/2 column, or less,	each insertion \$1 00
3/4 " " " " " " " " " " " "	" " " " " " " " " " " "
1 " " " " " " " " " " " "	" " " " " " " " " " " "
2 " " " " " " " " " " " "	" " " " " " " " " " " "
3 " " " " " " " " " " " "	" " " " " " " " " " " "

A deduction of 10 per cent is made for 6 insertions.

15 " " " " " " " " " " " "	18 "
30 " " " " " " " " " " " "	26 "
45 " " " " " " " " " " " "	32 "

Communications should be addressed to Office American Medical Times,
440 Broadway, N. Y. BAILLIÈRE BROTHERS,
Publishers and Proprietors.